FACTORS ASSOCIATED WITH HIV PREVENTIVE BEHAVIORS AMONG FEMALE SEX WORKERS IN BAGO TOWNSHIP, BAGO DIVISION, MYANMAR

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A THEMATIC PAPER SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH FACULTY OF GRADUATE STUDIES MAHIDOL UNIVERSITY 2020

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Thematic Paper
entitled

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ABSTRACT

This cross-sectional survey research aimed to study the factors associated with the HIV preventive behaviors among the female sex workers in Bago Township, Bago Division, Myanmar. The PRECEDE-PROCEED Model was applied to identify the factors associated with the HIV preventive behaviors. A Structured questionnaire, interviews were conducted with 179 female sex workers in Bago Township. The study participants were selected by the snowball sampling technique. Descriptive statistics were computed and binary and multiple logistic regressions were also conducted to examine the effect the selected independent variables on HIV preventive behaviors.

The result shows that 93.3% of the participants use condoms correctly and consistently with clients and regular partners. 77.7% of the participants can negotiate successfully with clients and regular partners for condom use. 89.4% of the participants do routine HIV counseling and testing. More than half which is 57% of the participants are willing to take pre-exposure prophylaxis (PrEP) medications. Bivariate logistic regression showed that factors associated with HIV preventive behavior were high income [OR= 3.523 (95% CI 1.43-8.677)], living alone [OR= 2.44 (95% CI 1.218-4.877)], substance abuse [OR= 3.815 (95% CI 2.046-7.113)], good peer support [OR= 3.712 (95% CI 1.998-6.899)], good social support [OR= 0.121 (95%CI 0.054-0.268)], high availability [OR= 9.31 (95% CI 1.166-74.359)], high accessibility [OR= 2.91 (95% CI 1.184- 7.15)], and receive peer education program and get health information from friends [OR= 0.478 (95% CI 0.257-0.89)].

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Finally, the multiple logistic regression showed that factors associated with HIV preventive behavior was availability of HIV prevention and services [AOR= 9.545 (95% CI= 1.996-91.481)].

IMPLICATION OF THE THEMATIC PAPER

The study suggests that, in order to improve the HIV preventive behavior among the female sex workers in Bago Township, the government should create more job opportunities for women of reproductive age to get better income. Capacity-building of the peer volunteers should also be considered. The government and the NGO sectors should promote the accessibility of HIV preventive information through the internet. Peer education programs should be carried out more frequently.

KEY WORDS: HIV PREVENTIVE BEHAVIOR/ FEMALE SEX WORKERS/ The PRECEDE-PROCEED MODEL

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LIST OF ABBREVIATIONS

FSWs	Female sex workers
HIV	Human immunodeficiency virus
AIDS	Acquired immunodeficiency virus
UNAIDS	United Nations AIDS
WHO	World Health Organization
IBBS	Integrated Biological and Behavioural Surveillance Survey
ART	Antiretroviral therapy
STD	Sexually transmitted disease
PrEP	Pre-exposure prophylaxis

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CHAPTER I
INTRODUCTION

1.1 Rationale and Background

HIV infection which prompts AIDS is one of the most significant general wellbeing challenges on the planet. There were taking after 37.9 million individuals over the globe with HIV/AIDS in 2018. Among that HIV spreads, almost 1.7 million people were recently infected with HIV and just 79% of individuals with HIV knew their HIV status comprehensively and the staying 21% (about 8.1 million individuals) need access to HIV testing services(1). As we probably aware, HIV counseling and testing is a fundamental door to HIV prevention, treatment, care, and other health services. Halting new instances of the disease and guaranteeing HIV infected patients has gotten to HIV treatment are challenging around the world.

Moreover, one of the key populations for HIV prevention are female sex workers(2). They were 12% of absolute HIV transmission in low and middle-income countries and were 13.5 times increasingly inclined to HIV disease while contrasted with general conceptive age women(3). Concerning the workplace of sex work, it changes. Versatile and covered sex workers were ineffectively gotten to in HIV prevention projects and administrations. This is one reason that FSWs and their male customers have a higher risk of HIV transmission.

Sex work is not legitimate in Myanmar, police-related viciousness and maltreatment towards sex laborers were accounted by certain organizations and sex workers networks. Those viciousness and criminalization drive the female sex workers away from fundamental preventive social insurance services(4). Female sex workers who were HIV positive were 5.6% and almost 45% of HIV positive sex workers knew about their status in 2018(5). In Yangon and Mandalay, an expected 24.6% and 13.7% of FSWs separately, were living with HIV, depicting the absolute most noteworthy HIV prevalence as in the Southeast Asia and Pacific region(6).

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HIV/AIDS preventive practices in sex workers refer to the condom utilization including both male or female condoms at any sex, routine HIV testing, and organization of pre-exposure prophylaxis prescriptions (PrEP) or/and early inception of antiretroviral treatment (ART), and partaking HIV preventive projects and activities(7). Even though Myanmar has remembered PrEP for their National Strategic Plan on HIV and AIDS, sex work is unlawful in Myanmar. It is improbable that PrEP would be given through government wellbeing frameworks. It would be given by more secure social channels through NGOs or community-led services(8).

Condoms are known to be viable at 80–85% to forestall HIV and 95% with the consistent and right use. There is more noteworthy interest from sex workers for more and better condoms and lubricants(9). Population Service International has achieved a condom social showcasing program in Myanmar, through the sponsored deal and conveyance of condoms since 8 years back. There are two sorts of condoms, customary and scented condoms which were shared out to retailers at 14 kyats ($0.017) and 18 kyats ($0.022) with suggested shopper costs at 30 kyats ($0.037) and 40 kyats ($0.049), individually. Around then, the cost of the most well-known business condom brand in Myanmar is 1,035 Kyats (1.22 $US) per 3-pack(10). Even though the condoms are accessible with modest value, the Global AIDS Response and Progress Report (GARPR) proportion of condom use, by and large, detailed condom use among sex workers finally sex with the customer had diminished from 95.9% in 2010 to 81.1% in 2015(11).

As per one past study in Myanmar, the extent of FSWs in seven urban areas (Yangon, Mandalay, Myitkyina, Monywa, Tachileik, Pyay, and Bago) who tested HIV and generated results were 43% (ranged between 28-73%). While, an average of visited a drop-in focus over the most recent 3 months was 31% (ranged between 8-67%), and consistency of utilizing condoms with customers a week ago was 94%. Be that as it may, just 28.5% predictable condom use with regular partners (six urban areas, excepted Tachileik). What's more, little example size was found in some territory (Yangon (n=495), Mandalay (225), Myitkyina (n=62), Monywa (n=49), Tachileik (n=39), Pyay (n=60), and Bago (n=48))(12).

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Bago is situated in the southern focal locale of Myanmar. This zone is a pathway to interface the upper and lower areas of Myanmar. A ton of migration appeared there and it has a higher number of female sex workers. As per an investigation of Tin Aung and group, they found that the extent of HIV testing of female sex workers (n=48) in Bago was 42%, and 13% visited a drop-in centres, 35% went to peer health volunteers, 53% accessed health information, and 94% utilized condoms with the last customer. In any case, just 24% of them were consistently use with their regular partner(12). As indicated by those proof, the circumstance of HIV preventive practices in Bago's FSWs were at high risk to spread the HIV infection. So as to forestall further transmission of HIV around there, it is imperative to investigate the related causes of HIV preventive practices among FSWs in Bago.

With theoretical concept using in health preventive behaviors, PRECEED-PROCED model was developed and used over five decades. Lawrence Green (1968) indicated that the health education is a process to bridge the gap between health information and health practices. However, health promotion is a combination between health education and related factors (organizational, economic, and environmental support for behavior conducive to health). In this model, it composed eight phases. In phase of causes of health behaviors identification, it considers three influencing factors would be more likely to affect the behaviors that are, first, predisposing factors (attitude, beliefs, values, and perceptions) facilitate motive change in individual. Second, enabling factors (barriers created by society, social support, legislation) facilitate the proposed changes. Lastly, reinforcing factors such as peer influence, family support which strengthen motivational factors to personal behavioral change(13). With previous study, a study of Phyu Hnin Hlaing, Patricia E. Sullivan, and Pakaratee Chaiyawat (2019) explained that PRECEED-PROCED model was used to design an educational intervention framework and it should be used to improve clinical decision and practices. According to a study above, this study will be applying the PRECEED-PROCED model to a conceptual framework to explore the influencing factors to HIV/AIDS preventive behaviors in female workers.

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In addition, previous literature review related to factors influencing to HIV preventing behaviors in female workers had been showed difference such as age of

respondents, education, and working area and those study evaluated HIV preventive outcome such as HIV testing, and participating HIV preventive program. With study of HIV testing, a study of Hong Y. and team (2012) found that older age, less education, working in high-income commercial sex venues, and better HIV knowledge were associated with HIV testing among FSWs in China(14). A study of Golam Hossain, and team (2017) indicated that female sex workers who aged 21-30 years, had higher education, rich family, had been tested sexual transmitted infections had better chances of getting tested HIV. In Brazil, a study of Ana Maria de Brito and team (2016) showed that high education, living with partner, working indoors, consistent use of condom, and regular use of both public and private health services were associated with HIV testing in Brazilian(15). In Ukraine, a study of Anna Tokar and team (2019) indicated that female sex workers who used drugs, women soliciting indoor, and those not using a condom with last paying sexual partner had lesser chance of HIV testing and receipt of test result(16). HIV prevention program, a study of Ji-Young Lee and team (2019) showed that no sexual exchanging for drugs, less than ten clients or partners in last three months, and being alcohol use were associated with low registered and contact with HIV prevention program in Cambodian female sex workers(17). Unclear finding from previous studies, this study aims to assess the HIV/AIDS preventive behaviors in female sex workers and explore the influencing factors to its. Expected outcome of this study will be used as suggestion and recommendation for developing the intervention to improve the HIV preventive behaviors among female sex workers in Bago division, Myanmar.

1.2 Research questions

(1) What was the HIV/AIDS preventive behaviors among female sex workers in Bago Township, Myanmar?

(2) What were factors associated with the HIV/AIDS preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar?

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1.3 Objectives

(1) To assess HIV/AIDS preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar.

(2) To describe the general characteristics, i.e., age, education, marital status, monthly income, sex work venues, living arrangement and substance abuse among female sex workers in Bago Township, Bago Division, Myanmar.

(3) To determine the predisposing, reinforcing and enabling factors influencing HIV/AIDS preventive behaviors among female sex workers.

(4) To explore the relationship between general characteristics included age, education, marital status, monthly income, sex work venues, living arrangement, substance and HIV /AIDS preventive behavior among female sex workers.

(5) To explore the relationship between predisposing factors in terms of knowledge and attitude towards HIV/AIDS prevention and HIV /AIDS preventive behavior among female sex workers.

(6) To explore the relationship between reinforcing factors in terms of peer support, health personnel support and HIV/AIDS preventive behaviors among female sex workers.

(7) To explore the relationship between enabling factors in terms of availability, accessibility to HIV/AIDS preventive services, source of information about HIV/AIDS prevention and HIV/AIDS preventive behaviors among female sex workers.

1.4 Research Hypotheses

(1) There was an association between general characteristics in terms of age, education, marital status, monthly income, sex work venues, living arrangement, substance abuse and HIV/AIDS preventive behavior among female sex workers in Bago Township, Myanmar.

(2) There was an association between predisposing factors in terms of knowledge and attitude towards HIV/AIDS prevention and HIV/AIDS preventive behavior among female sex workers in Bago Township, Myanmar.

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(3) There was an association between reinforcing factors in terms of peer support, health personnel support and HIV/AIDS preventive behavior among female sex workers in Bago Township, Myanmar.

(4) There was an association between enabling factors in terms of availability, accessibility, source of information of HIV/AIDS prevention and service and HIV/AIDS preventive behavior among female sex workers in Bago Township, Myanmar.

1.5 Variables

1.5.1 Dependent Variables

- HIV/AIDS preventive behavior

1.5.2 Independent variables

1.5.2.1 General characteristics

- Age
- Education
- Marital status
- Monthly income
- Sex work venues
- Living arrangement
- Substance abuse

1.5.2.2 Predisposing factors

- Knowledge about HIV/AIDS prevention
- Attitude towards HIV/AIDS prevention

1.5.2.3 Reinforcing factors

- Peer-support
- Health personnel support

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1.5.2.4 Enabling factors

- Availability of HIV/AIDS prevention and service
- Accessibility to HIV/AIDS prevention and service
- Source of information about HIV/AIDS prevention and service

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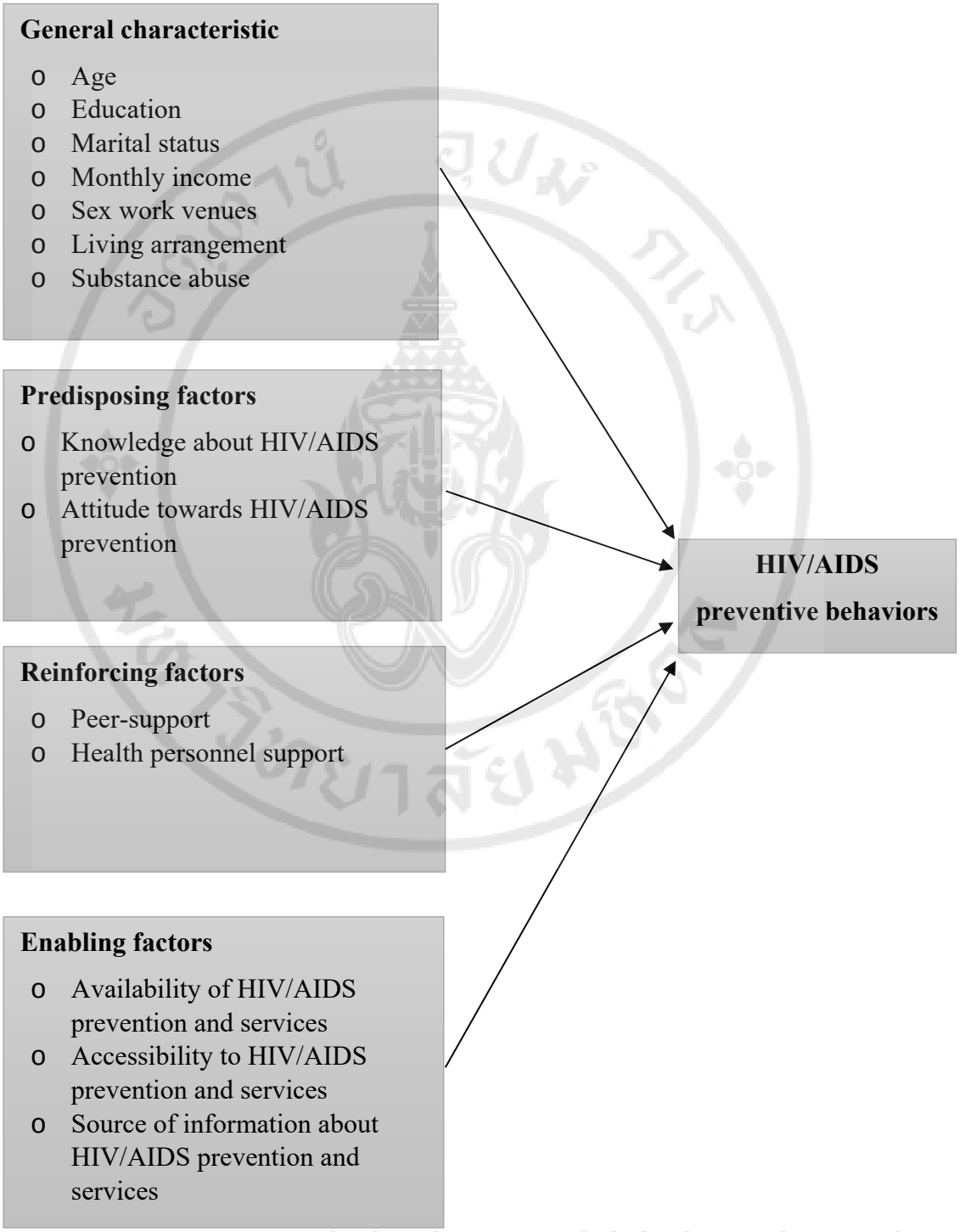
1.6 Conceptual Framework

Independent Variables **Dependent Variables**



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1.7 Operational Definitions

1.7.1 Dependent Variable

HIV/AIDS preventive behaviors defined as the correct and consistent condom use of female sex workers in Bago Township, Myanmar.

1.7.2 General characteristics

Age referred to the completed age in years of participants at the time of interview.

Education referred to the highest level of education which participants achieved at the time of interview. It is differentiated into illiteracy, primary school, secondary school, high school, college and higher.

Marital status referred to the participants' state of being single, married, separated/divorced, widow or others like cohabitation at the time of interview.

Monthly income referred to the average amount of money the commercial sex workers earn in one month from their work.

Sex work venues referred to the place of the female sex workers typically met their clients as either indoor or outdoor. Those who meet clients on the street and service them in alleys, or the clients' cars, whereas indoor sex workers are employed to work in brothels, massage parlors.

Living arrangements referred to the place where female sex workers live, if they live alone or with someone else, and live in familial and non-familial relationships. Familial relationships (related by blood, registered marriage, adoption). Unrelated people such as friends, and work colleagues have a non–familial relationships.

Substance abuse referred to the female sex worker use both legal and illegal chemicals that can change your body and mind work which include alcohol, heroin, cocaine, cannabis, amphetamines, opioids and even cigarettes and other tobacco products.

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1.7.3 Predisposing factors

Knowledge about HIV/AIDS prevention referred to the level of understanding to the risky behaviors of HIV/AIDS such as correct and consistent condom use, regular HIV/AIDS counselling and testing. The level of knowledge can be categorized into 3 groups by poor, moderate and high.

Attitude towards HIV/AIDS prevention referred to personal attitude of respondent on using condom, regular HIV testing, participating HIV counseling and education. The attitude of respondent will be devised into two positive and negative attitudes.

1.7.4 Reinforcing factors

Peer support referred to respondents who received social support by friends included emotional, material, informational and appraisal support. It will be categorized into good, fair and poor peer- support.

Health personnel support referred to the information, material, and psychosocial support and appraisal support received by the female sex workers from health care providers. It is measured by a set of questions and classified into good, fair and poor support.

1.7.5 Enabling factors

Availability of HIV/AIDS prevention and services referred to the presence of sources and services regarding HIV/AIDS prevention whenever the female sex workers want.

Accessibility to HIV/AIDS prevention and services referred to the content of HIV/AIDS prevention and services that is accessible to female sex workers; those services while considering the distance between the health care center and their residential areas, mode of transportation, travel cost and the time taken to do so.

Source of information about HIV/AIDS prevention and services referred to a person, thing or place from which the information or health education related to HIV preventive behaviors come or is obtained by female sex workers.

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CHAPTER II
LITERATURE REVIEW

This chapter reviews books, articles and other sources that are related to this study. It is composed of the following topics:

2.1 Situation of HIV/AIDS

2.2 HIV/AIDS Preventive Behaviors

2.3 PRECEED-PROCEED MODEL

2.4 Social support Theory

2.5 Relevant Research and Findings Related to This Study

2.1 Situation of HIV/AIDS

2.1.1 Global HIV statistics:

Since the beginning of the epidemic, almost 71 million people have been infected with the HIV virus and about 34 million people have died of HIV. According to the World Health Organization (WHO), there were approximately 36.9 million people worldwide living with HIV/AIDS at the end of 2014.

24.5 million [21.6 million–25.5 million] individuals were getting to antiretroviral treatment (end of June 2019).

37.9 million [32.7 million–44.0 million] individuals were living with HIV globally (end 2018).

1.7 million [1.4 million–2.3 million] individuals turned out to be recently infected with HIV (end 2018).

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770 000 [570 000–1.1 million] individuals died from AIDS-related illnesses from AIDS-related sicknesses (end 2018).

74.9 million [58.3 million–98.1 million] individuals have gotten infected with HIV since the beginning of the epidemic (end 2018).

32.0 million [23.6 million–43.8 million] individuals have died from AIDS-related illnesses since the start of the epidemic (end 2018)(18).

In the South-East Asia region which comprises of 11 part states, has an expected 3.5 million individuals living with HIV (PLHIV). The South-East Asia district has gained ground to battle the HIV infection since 2010(19). UNAIDS gauges that there were 240,000 individuals living with HIV in Myanmar (Burma) in 2018. Around the same time, an expected 7,800 individuals kicked the bucket from AIDS-related diseases. Myanmar is one of 35 nations that together record for 90% of new infections all around. In 2018, Myanmar announced 11,000 new cases (roughly 30 infections for every day). In spite of the fact that the quantity of new cases stays consistent looked at in recent years, perceptions guarantee that the yearly pace of the infection is done diminishing pattern at a similar rate as it did somewhere in the range of 2000 and 2010. New cases are generally fired up in urban zones where the higher pace of pattern change, a higher pace of purchasing sex and infusing drugs, lower information on HIV transmission and prevention, lower contact by outreach sex workers and a lower rate of condom use, all subsequent in higher HIV prevalence(20).

In 2018, UNAIDS detailed that all around, about 9% of new HIV infection were sex workers(21). Additionally, sex laborers are almost certain to get infected with HIV multiple times in contrast with general people. In female sex workers, WHO announced that 35% of them are bound to be HIV positive compared with another regenerative matured female all around. It is comparable with the circumstance of HIV disease among female sex workers in Asia. There were practically 30% of female sex workers who live with HIV. Modelling studies showing that decriminalizing sex work could decrease 46% of new HIV contaminations in sex laborers in more than 10 years and disposing of sexual viciousness against FSWs could change over to a 20% decrease in new HIV diseases. WHO underpins nations to address these structural

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barriers and guarantee sex workers' human rights just as implementing a comprehensive package of HIV and other health services for sex workers through community lead approaches(22). Prevention methods, particularly consistent condom use, have helped to reduce HIV transmission and curtailed the broader spread of HIV in settings where the epidemic is concentrated in specific populations.

2.1.2 Situation of HIV/AIDS and Female Sex Workers

Commercial sex alludes to people who engage in sexual relations with their customers for trading cash or products. It still has unclear role and function of commercial sex because it is illegal and unpublished in a few nations. Be that as it may, unprotected sex in sex workers prompting an HIV epidemic situation worldwide(23). Plainly, sex workers experience numerous sexual partners than everybody. The past proof showed that the rate of HIV disease in sex workers is higher than in different populaces because of less HIV preventive practices and access to HIV preventive services(21).

The hard punishments for commercial sex work contained in Myanmar's Suppression of Prostitution Act (1949) are a significant obstacles getting to HIV prevention and treatment. The punishment is one to three years in jail for sex workers, yet customers are not punished under the law. In 2016, just half of the sex workers in the nation got to HTC testing(24). While it is realized that HIV prevalence is higher among key affected populations, for example, female sex workers (FSWs), the size of these populaces are hard to evaluate. One investigation led in Myanmar shows that a population size of FSW in Yangon is 4992 (upper and lower limits: 4482–5753) and 3315 (2992–3368) in Mandalay. These estimates translate to a population prevalence of FSW among grown-up ladies (age 18–49 years) of 0.35 % (0.32–0.40 %) in Yangon and 0.77 % (0.69–0.84 %) in Mandalay(25).

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2.2 HIV/AIDS Preventive Behaviors

2.2.1 Situation of HIV/AIDS Preventive Behaviors

According to previous study in Myanmar, proportion of FSWs in seven cities (Yangon, Mandalay, Myitkyina, Monywa, Tachileik, Pyay, and Bago) tested HIV and generated results was 43% (range between 28-73%). While, average of visited a drop-in center in last 3 months were 31% (ranged 8-67%), and consistent condom use with clients in last week was 94%. But only 28.5% consistent condom use with regular partners (six cities, excepted Tachileik). In addition, small sample size was found in some area (Yangon (n=495), Mandalay (225), Myitkyina (n=62), Monywa (n=49), Tachileik (n=39), Pyay (n=60), and Bago(n=48))(12).

With a study related to HIV testing, a study of Hong Y. and team (2012) found that older age, less education, working in high-income commercial sex venues, and better HIV knowledge were associated with HIV testing among female sex workers in China(14). A study of Golam Hossain, and team (2017) indicated that female sex workers who aged 21-30 years, had higher education, rich family, had been tested sexual transmitted infection were more likely to tested HIV. In Brazil, a study of Ana Maria de Brito and team (2016) showed that high education, living with partner, working indoors, consistent use of condom, and regular use of both public and private health services were associated with HIV testing in Brazilian(15). In Ukraine, a study of Anna Tokar and team (2019) indicated that female sex workers who used drugs, women soliciting indoor, and those not using a condom with last paying sexual partner was less likely HIV testing and receipt of test result(16). HIV prevention program, a study of Ji-Young Lee and team (2019) showed that no sexual exchanging for drugs, less than ten sexual partners in last three months, and being alcohol use were associated with low registered and contact with HIV prevention program in Cambodian female sex workers(17).

Combination of HIV prevention is likely to be most effective when different points in the “transmission cycle” are impeded, combining strategies to reduce infectiousness of HIV-positive persons with strategies that reduce HIV susceptibility in the uninfected person. Most early HIV prevention policies focused

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heavily on HIV-negative, at risk persons (e.g., using behavior change communication campaigns). However, seronegative persons represent a very large pool to target high coverage. Strategies to reduce the infectiousness of HIV-positive individuals by reducing secondary HIV transmission should be part of the prevention policy. Theoretically, if high proportions of people living with HIV/AIDS (PLHIV) learned their HIV status and adopt interventions such as ART coupled with behavioral risk reduction, this could have a significant impact on HIV transmission.

Condom use is a critical component in a comprehensive and sustainable approach to the prevention of HIV and other sexually transmitted infections (STIs) and for preventing unintended pregnancies especially among people with HIV positive clients. The maximum protective effect of condoms is achieved when their use is consistent rather than occasional.

2.2.2 HIV/AIDS Preventive Behaviors in Female Sex Workers

HIV/AIDS preventive behaviors in female sex workers means using condom correctly and consistently with compatible lubricants, regular HIV counseling and testing visits and using pre-exposure prophylaxis (PrEP) medications at substantial risk of HIV infection as new recommendation. Post-exposure prophylaxis (PEP) should be available to all eligible people from key populations on a voluntary basis after possible exposure to HIV. Correct and consistent use of male condoms reduces sexual transmission of HIV and other STIs in both vaginal and anal sex by up to 94%. Use of water- or silicone-based lubricants helps to prevent condoms from breaking and slipping. Screening, diagnosis and treatment of sexually transmitted infections should be offered routinely as part of comprehensive HIV prevention and care for key populations. Female sex workers often face power imbalances that limit their ability to use condoms with clients. Peer-led and outreach approaches may help to increase knowledge, develop skills and empower sex workers to use condoms and lubricants consistently(22).

In 2014, the WHO first prescribed the utilization of oral PrEP to forestall HIV acquisition for individuals from people at higher risk of infection. The next year, the WHO extended the guidelines to incorporate all populations at the substantial risk

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of getting HIV. Potential PrEP clients may decrease use since they worry that their families or networks may accept they have HIV. Utilization of ART to relieve HIV transmission added an important platform for the prevention arsenal, however, it didn't fill the missing hole of a user-friendly method(26). Right now, the main medication approved for use as PrEP in the U.S. is Truvada. At the point when taken every day, Truvada for PrEP has been appeared to diminish the danger of HIV transmission by up to 99%. This methodology expects adherence to day by day pill-taking for full adequacy. Presently, condoms are suggested as a front-liner against HIV, in addition, it helps PrEP and TasP users to protect against STIs other than HIV (like syphilis, gonorrhea, chlamydia, HPV, herpes, etc.)(27).

Treatment as avoidance (TasP) refers to the utilization of antiretroviral (ARV) medicine to forestall HIV transmission. TasP includes recommending ARVs to the individuals who are living with HIV so as to decrease the amount of HIV in their blood to undetectable levels so that there is viably no danger of transmission of HIV. The accomplishment of TasP is reliant on individuals adhereing to their HIV treatment. While it is recognized that TasP alone won't end the worldwide HIV epidemic, it is a fundamental piece of the HIV prevention toolbox(28). Microbicide gels applied vaginally and anally, keep on being investigated in clinical trials. Scientists are additionally starting investigations of silicone rings containing ARVs that can be embedded vaginally and replaced on a month to month basis, making the microbicide simpler to utilize (and conceivably more effective)(29).

In spite of the fact that the pursuit of new preventive advances, for example, HIV immunizations, microbicides, and pre-exposure chemoprophylaxis (PREP) keeps on gaining ground, condoms remain the foremost HIV prevention tool for a long time to come. On the off chance that condoms are relinquished for incompletely viable advancements, exposure to HIV could even increase in certain populations. Sophisticated information about the right utilization of new advances should be given to sex workers and customers to forestall harm coming about because of their use(11).

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2.3 PRECEDE-PROCEED Model

The PRECEDE-PROCEED model is a comprehensive structure for assessing health needs for designing, implementing, and evaluating health promotion and other public health programs to meet those needs. PRECEDE provides the structure for planning a targeted and focused public health program. PROCEED provides the structure for implementing and evaluating the public health program.

PRECEDE process consists of four assessment and planning phases to guide the planner in selecting what problem to address, examining its underlying causes, and planning an intervention.

Phase 1: Social assessment and situational analysis: Aim to identify the population priorities in improving their lives. It assesses people's opinion of their own needs and quality of life.

Phase 2: Epidemiological assessment, Behavioral, and Environmental Assessment: Aim to identify the health priorities and their behavioral and environmental determinants. Documents which health problems are the most important for which groups of people in community. Looking out for the behavioral and environmental factors which are most likely to determine the health problem of interest.

Phase 3: Education and Ecological assessment: Aim to determine the wider causative factors behind the social and health issues prioritized in the earlier stages. It composts of 3 categories which are:

1- Predisposing factors: Antecedents to a behavior that provide rationale or motivation of that behavior- i.e., individual's knowledge, attitudes, beliefs, and self-efficacy.

2- Reinforcing factors: Factors that following a behavior provide continued reward or incentive for repetition of that behavior-i.e., social support, peer support, and social cohesion.

3- Enabling factors: Resources and skills required to make desired behavioral and environmental changes- i.e., availability, accessibility and affordability of services.

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Phase 4: Administrative and Policy assessment and Intervention alignment: Aim to design the action plan for meeting the objectives set in the first three phases. The task of the planner is to select and align the programs components, identify resources, identify organizational barriers and facilitators and identify polices that are needed for program implementation.

Consider 2 levels of alignment between assessment of determinants and selection of interventions.

Macro level- organizational and environmental systems

Micro level – focus is on the individual, peer, family, and others who can influence the desired change.

PROCEED process includes four implementation and evaluation phases and it aims to make the program available, accessible, acceptable and accountable.

Phase 5: Implementing the plan

Phase 6: Evaluation

Evaluation includes the process, impact and outcome evaluations

- Process evaluation- evaluate how the program was implemented according to the protocol
- Impact evaluation- assess change in predisposing, reinforcing and enabling factors as well as in behavioral and environmental factors
- Outcome evaluation- determine the effect of the program on health and quality of life indicators

Plan data collection for evaluation of the program success

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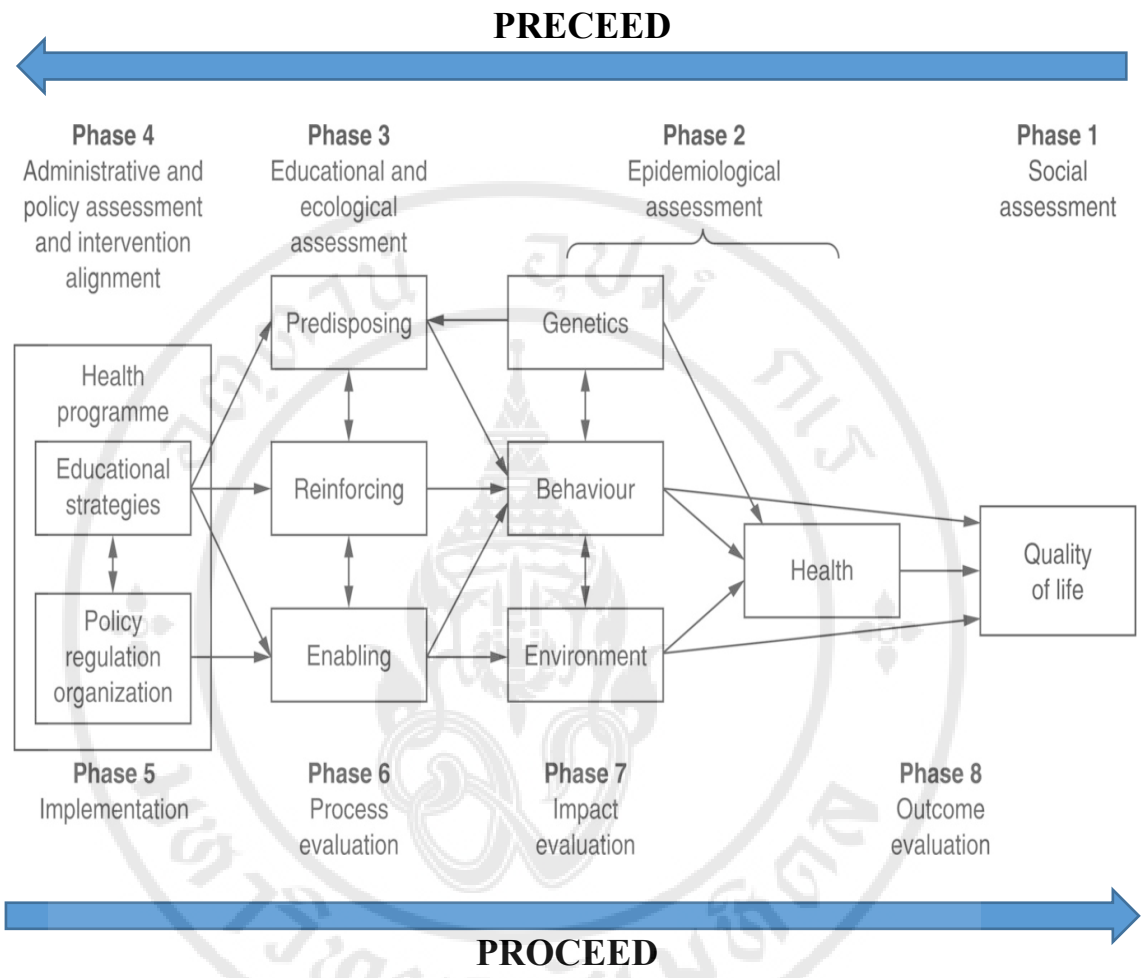

Figure 2.1 showing the PRECEDE-PROCEED logical framework or model is developed by Lawrence W. Green and Marshall W. Kreuter.

The third phase of PRECEED-PROCEED model is composed of predisposing, reinforcing and enabling factors which was used to explore both external and internal factors associated with HIV preventive behaviors of female sex workers in Bago Division, Bago Township, Myanmar.

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2.4 Social Support Theory

Social support served as a key psychosocial protective factor that reduced individuals' vulnerability to the deleterious effects of stress on health. He also specified that psychosocial factors such as social support were likely to play a nonspecific role in the etiology of disease. Thus, social support may influence the incidence and prevalence of a wide array of health outcomes by providing continuing reward or incentive for the persistence or repetition of the behavior(30).

Social support can be categorized and measured in several different ways. There are four common functions of social support:

Emotional support is the offering of empathy, concern, affection, love, trust, acceptance, intimacy, encouragement, or caring. It is the warmth and nurturance provided by sources of social support. Providing emotional support can let the individual know that he or she is valued.

Tangible support is the provision of financial assistance, material goods, or services. Also called instrumental support, this form of social support encompasses the concrete, direct ways people assist others.

Informational support is the provision of advice, guidance, suggestions, or useful information to someone. This type of information has the potential to help others problem-solve.

Companionship support is the type of support that gives someone a sense of social belonging (and is also called belonging). This can be seen as the presence of companions to engage in shared social activities. It is also referred to as "esteem support" or "appraisal support."

Furthermore, social support can be measured in terms of structural support or functional support. Structural support (also called social integration) refers to the extent to which a recipient is connected within a social network, like the number of social ties or how integrated a person is within his or her social network. Family relationships, friends, and membership in clubs and organizations contribute to social integration. Functional support looks at the specific functions that members in this

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social network can provide, such as the emotional, instrumental, informational, and companionship support listed above. Data suggests that emotional support may play a more significant role in protecting individuals from the deleterious effects of stress than structural means of support, such as social involvement or activity.

These different types of social support have different patterns of correlations with health, personality, and personal relationships. For example, perceived support is consistently linked to better mental health whereas received support and social integration are not. In fact, research indicates that perceived social support that is untapped can be more effective and beneficial than utilized social support. Some have suggested that invisible support, a form of support where the person has support without his or her awareness, may be the most beneficial.

2.5 Relevant Research and Findings Related to This Study

2.5.1 General characteristics

Age

Age factor has a strong influence on risky sexual behaviors among female sex workers. A cross-sectional community-based study was conducted among brothel-based sex workers of West Bengal, eastern India, to study the prevalence of HIV and associated risk factors. Unlinked anonymous HIV testing was performed on 2076 sex workers. Of these, 558 were interviewed using a pre-tested questionnaire to study their risk factors. Overall HIV sero-prevalence was 5.9%. All infections were HIV-1, except that four sex workers from Kolkata were infected with HIV-2. Surprisingly, HIV infection was much higher (12.5%) in younger sex workers (age < or =20 years) compared with older age groups (5.4%) (P=0.002; odds ratio 2.40, 95% CI: 1.29-4.38). This could be associated with larger areas of cervical ectopy of younger sex workers who are subjected to repeated trauma during sexual intercourse, facilitating higher HIV transmission. Risk of acquiring HIV infection in a young sex worker's is higher than older sex worker, including professional immaturity with clients, which might lead to more unprotected sex. In contrast, other studies have also indicated that adolescent FSWs are of higher risk of sexual behaviors as compared to older peers.

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Adolescent FSWs reported inconsistent condom use and lacked condom negotiation skills, low knowledge of HIV, and more anal sex and a greater number of customers per week, as compared to older FSWs(31).

Education

The higher the education, there are more chances of getting a highly paid job. They might not need additional income by selling sex and also have chance to access to more information from variety of sources. A cross-sectional survey among 258 FSWs in Kaysone Phomvihan district in Savannakhet province was performed 2015. It found out that shorter time in sex work, higher education and FSW not having regular partners were significantly associated with consistent condom use(32). One study was done related to safer sex negotiation and its association with condom use among clients of female sex workers (FSWs) in Bangladesh. Data were collected from 484 FSWs living in Dhaka city following a convenient sampling procedure. Both bivariate and multivariable binary logistic regression analyses yielded significantly increased risk of negotiation for safer sex with clients among FSWs with higher education. The odds of using condoms were significantly higher among the FSWs with higher education, unmarried, hotel-based, and among those with higher level of HIV/AIDS-related knowledge(33).

Marital Status

In 2018, a study done in India related to determinants of consistent condom use (CCU) among married and cohabiting female sex workers (FSW). Most FSWs do not consistently use condoms with intimate partners. Multiple logistic regression models indicated that condom use with intimate partners was associated with relationship status, cohabitation, serving as a peer educator(34).

Another special behavioral surveys (SBS) in the two districts of Karnataka, India: Belgaum and Bangalore show that FSWs who are older, currently married, practicing sex work for longer duration and with higher clientele were more likely to engage in risky sexual practices. The odds of engaging in risky sex were higher among FSWs who were older (35+ years) than younger (18–25 years) (58% vs. 45%), Adjusted Odds Ratio (AOR): 2.0, 95% confidence interval (CI): (1.2–3.4), who

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were currently married than never married (61% vs. 51%), AOR: 4.8, 95% CI: (2.5–9.3), who were in sex work for 10+ years than those who were in sex work for less than five years (66% vs. 39%, AOR: 2.6, 95% CI: (1.6–4.2), and who had sex with 3+ clients/day than those who had sex with fewer clients (67% vs. 38%), AOR: 3.7, 95% CI:(2.5–5.5)(35).

Sex work venues

Some of the female sex workers actively look for their clients in male crowded venues such as pubs, clubs, hostels or hotels. Higher numbers of street based (outdoor) sex workers can be an indicator for socioeconomic breakdown in developing countries. Indoor sex work is typified by brothel prostitution. The human rights and working conditions of brothel prostitutes are varied, but brothel houses generally offer a greater security than the street in terms of personal safety and the ability to provide preventive health care services and education(36). Brothel workers were found to be considerably less exposed to HIV risk than the women working on the streets. The absence of legal protection for street workers, extreme social isolation and lack of community support added to the difficulties experienced by women in their attempts to insist on condoms for all sex services(37). But, another study done in Nigeria shown that HIV prevalence among brothel based female sex workers is 19.4%, and non-brothel based female sex workers is 8.6%(38).

Monthly Income

A cross-sectional study was done in Zhejiang province, China related to consistent condom use and its correlates among female sex workers at hair salons in 2017. Bivariate analysis indicated that educational level, marital status, having a son/daughter, and monthly incomes were not associated with self-reported consistent condom use(39). Another study done in Two Northern Border Cities of Mexico related to “Condom Access: Associations with Consistent Condom Use among Female Sex Workers.” In this study, logistic regression shows that factors positively associated with consistent condom use were condom availability (OR = 2.00; 95% CI: 1.32–3.03), condom affordability (OR = 1.72; 95% CI: 1.25–2.38) and self–efficacy (OR = 2.16; 95% CI: 1.54–3.04). Factors inversely associated with consistent condom use included poor financial status (OR = 0.65; 95% CI: 0.47–0.90), methamphetamine

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use (OR = 0.58; 95% CI: 0.40–0.83), alcohol use (OR = 0.68; 95% CI: 0.49–0.96), and recent injection drug use (OR = 0.62; 95% CI: 0.39–0.97)(40).

Living arrangement

A social network is a set of ties among people who have some common interests or interactions. Family, friends, neighbors, coworkers, and sex or drug partners may be members of the social network that influence HIV-related behaviors. A network can affect the members' behaviors and health outcomes. The HIV/AIDS preventive behaviors may be based on structural network characteristics of the FSWs. One study done in China related to social network and HIV risk behaviors in female sex workers in 2018. In final multivariate model, after adjusting for socio-demographic variables, perceived social support from family members and friends (OR = 0.39, 95 %CI = 0.12–0.44) had significant association with condom use(41).

Substance abuse

The linkage is strong between exchange sex and drug and alcohol use. FSWs who exchange sex, if under the influence of drugs or alcohol, may have impaired judgment, engage in riskier forms of sex such as anal sex, and have difficulty negotiating safer sex like condom use, with their customers. FSWs who trade sex for drugs tend to have more clients, use condoms less often, and are more likely to share needles and other drug works(42). One study was conducted in Iran related to crystal methamphetamine use and its correlates in women engaged in sex work in a developing country setting. It was found out that non-injecting and injecting CM use was reported by 15.0% (95% CI: 8.7, 24.7) of participants. CM use was positively associated with concurrent use of opioids (APR from 2.08 to 3.84, P-value < 0.01), higher number of sexual partners (APR: 2.05, P-value: 0.018), housing instability (APR: 3.54, P-value: 0.001), and history of forced sex (APR: 1.47, P-value: 0.050)(43).

2.5.2 Predisposing Factors

Knowledge about HIV/AIDS prevention

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Knowledge of HIV/AIDS plays a crucial role to motivate the female sex workers for changing risky sexual behaviors. Generally, the female sex workers are barely likely to access the health information associated with the HIV/AIDS because

of stigmatization and discrimination. Lack of knowledge or insufficient knowledge and incorrect information lead them at higher risk of HIV transmission. One study was conducted related to beliefs, sexual behaviors and preventive practices with respect to HIV/AIDS among commercial sex workers in Daulatdia, Bangladesh, it showed that most CSWs had heard of AIDS, correct knowledge of transmission and symptoms was lacking. HIV/AIDS was viewed as a remote threat, over-ridden by immediate economic and survival concerns. Although the majority of CSWs knew that condoms afforded protection against STDs/AIDS, only one-third of sex acts on the last day of work were protected through condom use(44). One cross-sectional survey was conducted about HIV, other sexually transmitted infections, and risk behaviors among female sex workers in Liuzhou, China. It was found out that inconsistent condom use was least likely in FSWs with high HIV awareness (OR 0.29; 95% CI 0.18–0.48) and who had had a previous HIV test (OR 0.51; 95% CI 0.34–0.76)(45).

Attitude towards HIV/AIDS prevention

Attitudes towards HIV/AIDS is strongly associated with motive to change the risky sexual behaviors. One study was conducted in Spain related to Condom Use Among Female Sex Workers in Catalonia: Why Do They Use a Condom, Why Don't They Use It? The result stated that both condom use and non-condom use represent strategies that FSWs use mainly when confronted by threats to things they consider important(46). A Cross-Sectional Study was done in Hubei Province, China related to Predictors of Condom Use Behaviors among Female Sex Workers. They found that clients' requests and extra payment for not using condoms were major barriers(47). Self-efficacy is one of the most important factors in condom use, have a positive effect on condom use frequency, consistency and intention to use a condom(48). Self-efficacy of condom use is defined as the belief that one is both capable of and likely to use condoms in sexual activities(49). One may know how to use a condom, but may not feel confident in their ability to do so(50).

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2.5.3 Reinforcing Factors

Peer-support and health personnel support

The psychosocial support component of reinforcing factors in PRECEDE-PROCEED model incorporate information support, psychological support and instrumental support. The psychosocial supports are provided by the members of the society including peer volunteers, friends and health care providers.

One study was conducted in China about Social Support and Condom Use Among Female Sex Workers. It was shown that support from friends was conducive to correct condom use, while support from coworkers of the FSWs did not play a significant role in promoting safer sexual behaviors. Support from gatekeeper and friends were positively associated with condom use. The FSWs with more informational support from gatekeeper reported a higher rate of consistent condom use with stable partners (OR = 1.264; 95% CI = 1.036, 1.542). The FSWs with higher emotional support from friends were more likely to use condoms correctly (OR = 1.085; 95% CI = 1.002, 1.175) and tangible support was not significantly predictive of condom use measures among the FSWs(51).

Another cross-sectional study examined relationships between two key social capital constructs, social cohesion among sex workers and social participation of sex workers in the larger community, and HIV-related risk in Swaziland using respondent-driven sampling. Relationships between social cohesion, social participation, and HIV-related risk factors were assessed using logistic regression. HIV prevalence among the sample was 70.4% (223/317). Social cohesion was associated with consistent condom use in the past week (OR= 2.25, 95% confidence interval [CI]:1.30–3.90) and was associated with fewer reports of social discrimination, including denial of police protection. Social participation was associated with HIV testing (OR = 2.39, 95% CI: 1.36–4.03) and using condoms with non-paying partners (OR = 1.99, 95% CI: 1.13–3.51), and was inversely associated with reported verbal or physical harassment as a result of selling sex (OR = 0.55, 95% CI: (0.33–0.9a)(52).

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2.5.4 Enabling Factors

Availability and accessibility of HIV/AIDS prevention and services

The enabling factors of any behavior or treatment program are the availability and accessibility of the services. Decreasing fear of seeking health services, increasing provision and uptake of voluntary HIV counseling and testing, and empowering FSW to suggest condom use with clients may be strategies for increasing consistent condom use with clients. Health care providers should be trained to build their clinical and cultural competence to provide services to FSW. This may reduce fear of seeking health services among FSW. Additionally, if FSW disclose their occupation to a health worker this may provide an opportunity for a discussion about safer sexual and conception practices with nonpaying partners.

The findings of a cross-sectional survey related to Correlates of condom use among female sex workers in The Gambia showed that FSWS were more likely to report using condoms in the past month with new clients (OR 8.04, 95% CI [2.11–30.65]) and in the past month with nonpaying partners (OR 2.93, 95% CI [1.09–7.89]) if they had been tested for HIV in the past year. Women who bought all their condoms were less likely to have used a condom at last vaginal or anal sex than those who received all of their condoms for free (OR 0.38, 95% CI [0.15–0.97])(53).

One study was done for detailed documentation of various aspects of sex work, and sexual behavior with regular sex partners, was done through confidential interviews for 6648 FSWs in 13 districts in the Indian state of Andhra Pradesh. Multivariate analysis was done. Of these 2907 reported non-use of condom with at least one of her last three clients because there was no access to free condoms (54).

Source of information about HIV/AIDS prevention and services

It was known that television was the most important source of information about HTC. Exposure to HIV information through small media and interpersonal channels was associated with the ability to identify primary routes of HIV transmission and being tested for HIV; no associations were found for mass media(55). In a rural county in Guangxi, China, a cross-sectional survey was conducted related to the source of information associated with the HIV-related knowledge among low-paying female sex workers. It was shown that free materials (64.6%) and TV (59.3%) were identified as the two main sources of HIV-related

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knowledge, followed by friends, advertisement bulletins, health care providers, books, broadcast, counseling service, and newspapers. Both higher education and gaining knowledge from free materials are positively associated with higher levels of HIV knowledge, while newspapers and advertisement bulletins negatively associated with levels of HIV knowledge(56).

A cross-sectional study was conducted to study mass media and HIV/AIDS prevention among Female Sex Workers in Beijing, China. The result stated that a higher level of exposure to and a lasting impression on online information were significantly associated with a higher level of condom use self-efficacy and more consistent condom use among the participants. Exposure to HIV/AIDS prevention information delivered by radio, street posters, and the Internet was found to be associated with sexual communication about HIV or condom use with sexual partners. However, we must note that mass communication programs are not magic bullets that definitely produce recommended behavior change among target audiences(57).

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CHAPTER III
MATERIALS AND METHODS

3.1 Study Design

This research was carried out by cross-sessional study design to explore factors associated with the preventive behavior of HIV/AIDS among female sex workers in Bago Township, Bago Division, Myanmar.

3.2 Site of the Study

The study was conducted in Bago Township, Bago District, Bago Division, Myanamr which is located in the southern central part of Myanmar. Bago Region occupies an area of 39,400 square kilometers (15,214 square mi) divided into the four districts of Bago, Pyay, Tharrawaddy and Taungoo. Bago District is the divisional capital, is the fourth largest town of Burma.

3.3 Study Population and Sample

3.3.1 Study population

The study population was female sex workers of aged >18years and who are currently living in the Bago Township for at least 3 months.

3.3.2 Inclusion and Exclusion Criteria

Inclusion Criteria

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- FSWs of age of >18 years of age

- FSWs who are currently living in the Bago Township for at least 3 months
- FSWs who are willing to participate after inform consent

Exclusion Criteria

- Female sex workers who are absent on the day of data collection
- FSWs who could not communicate verbally

3.3.3 Sample Size Estimation

The sample size was computed to get the minimum number required for this study by using the following formula:

$$n = \frac{Z^2_{\alpha/2}\, p\,(1-p)}{d^2}$$

n = estimated sample size

Z 1-α/2 = standard normal deviate, which correspond to 95% confidence interval, usually set at 1.96

d = degree of accuracy required, usually set at 0.05

p = proportion of female sex workers estimated to have preventive behavior of HIV/AIDS in Bago Township

The proportion of female sex workers who had preventive behavior (consistent condom use) with last partner in last week is 88% according to one study done in 2014(58). Thus, the estimated sample size was 162.27 at least. To prevent attribution rate, 10% of the minimal sample size was added to the total sample size. It had become 179.

3.3.4 Sampling Method and Procedure

The sample of the female sex workers in this study was obtained from Bago Township, Bago Division, Myanmar. In Bago township, there are total of 34 wards.

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According to geographical regions, it can be divided into East, North East, North, West, North West, South and South East. One ward from each region will be selected by simple random sampling.

East Zone consists of 5 wards, selected ward in this zone is Hinthar Gone.

North East Zone consists of 2 wards, selected ward in this zone is Myo Thit.

North Zone consists of 10 wards, selected wards in this zone is Kyout Kyee Su.

West Zone consists of 2 wards, selected ward in this zone is Kalyar Ne.

North West Zone consists of 2 wards, selected ward in this zone is Oat Thar 3.

South Zone consists of 10 wards, selected ward in this zone is Pone Nasu.

South East Zone consists of 3 wards, selected ward in this zone is A Linn Yong.

According to the data obtained from the sample size calculation, 179 number of FSWs. The participants were recruited using a snowball sampling technique. Four initial participants in each ward were recruited with the help of a staff member of a non-governmental organization (NGO) providing HIV/AIDS services in Bago Township and who knew that they were clients of FCSWs. They were asked to circulate the information sheet containing the researchers' contact details and information about this study among their colleagues who would be willing to participate in the study. Initially, 179 participants contacted the researchers in the following 3 weeks and took part in the study.

3.4 Research Instruments

This study was used a self-administered questionnaires. It will be developed in English and translated into Burmese. They are close ended and multiple choices questions. The questionnaires were structured by viewing the related literature review and supported conceptual framework. The questionnaires composed of 5 parts including:

Part 1: General Characteristics

The general characteristics of respondents composted of 7 items. They were age, education, marital status, monthly income, sex work venues, living arrangement and substance abuse. Only age and monthly income are fill-in answer. Other variables are multiple choices.

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Part 2: Predisposing factors (knowledge and attitude of HIV/AIDS preventive behavior)

2.1 Knowledge of HIV/AIDS preventive behavior

This part was developed by literature review and conceptual framework. It contains total of 15 questions. Answer is yes, no and not sure. A corrected answer will be scored 1. Incorrected answer and not sure will be scored as zero. Overall score will be 0-15 points and it will be separated into three levels as followings:

Level of knowledge	Score
Poor level	<9
Moderate level	9-12
High level	>12

2.1 Attitude towards HIV/AIDS preventive behavior

This part was developed by literature review and conceptual framework. It contained total of 5 questions. Positive question, answer is a five point Likert scale, scored 3-15. Negative question, an answer will be reversed score before analysis. Overall score will be 15 points and it was separated into three levels as following;

Level of attitude are;

Negative attitude: < 60% of total score (≤ 9 score)

Positive attitude: > 60% of total score (> 10 score)

Part 3: Reinforcing factors

3.1 Peer support

It consisted of 4 questions regarding peer support. Questionnaires are related to emotional, material, informational and appraisal support. It was categorized into “Most of the time”, “Often”, “Sometimes” and “Never”. The score was 3 for “Most of the time”, 2 for “Often”, 1 for “Sometimes” and 0 for “Never”.

Good support: ≥80% of total score (≥9.6 score)

Fair support: 60-79% of total score (7.2-9.6 score)

Low support: <60% of total score (<7.2 score)

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3.2 Health personal support

It consisted of 4 questions regarding peer support. Questionnaires were related to emotional, material, informational and appraisal support. It was categorized into "Most of the time", "Often", "Sometimes" and "Never". The score was 3 for "Most of the time", 2 for "Often", 1 for "Sometimes" and 0 for "Never".

Good support: ≥80% of total score (≥9.6 score)

Fair support: 60-79% of total score (7.2-9.6 score)

Low support: <60% of total score (<7.2 score)

Part 4: Enabling factors

4.1 Availability of HIV/AIDS preventive services

Availability consisted of 5 questions related availability of clinics which provide HCT services, having enough clinic opening hours, confidentiality for patient's information, having privacy at waiting areas, availability of condoms and condom-friendly lubricants and pre-exposure prophylaxis (PrEP) medications at those clinics providing the HTC services. They are "Yes or NO" questions. Each "Yes" answer scores 1. Total score of ≥ 3 is assumed as high availability.

4.2 Accessibility of HIV preventive services

Accessibility consisted of 3 questions related to the convenience of female sex workers to go those places where HTC services are given, the amount of time taken to reach there and the information provided from HTC clinics are understandable to female sex workers. They are "Yes or NO" questions. Each "Yes" answer scores 1. Total score of ≥ 2 is assumed as high accessibility.

4.3 Source of information about HIV preventive behavior

This section composed of 2 questions. Multiple responses are allowed in this first question. Another question was about peer education program. Respondents' information recognition which were given by peer educators was also added by closed question.

All the results were displayed by number and percent.

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3.5 Validity and Reliability of measurement tools

The questionnaires were developed based on the theory, concepts, and relevance research from the literature review. Content validity will be asses by three experts in related file. Moreover, the measurement will be translated in Burmese by two Myanmar health professionals. definitions. Reliability of the questionnaires will be tested for the accuracy, clarity of language, appropriate wording and relevancy to the target population. The pilot test will be done with 30 FSWs in another ward. Cronbach alpha coefficient will be used to test the reliability of measurement.

3.6 Data Collection

Process of the data collection are

1. Submitting the ethical approval of conducting research. The ethical approval of this study was obtained from ethical review committee of Faculty of Public Health, Mahidol University.

2. Local authorities of Bago Township were informed about the nature, purpose and process of the study, and ethical approval of this study. After they considered and approved for data collection, researchers will be sampling the target group and collecting data.

3. Data collectors were trained by researcher. Data collectors will be chosen from local health volunteers and NGOs officers. One-day training prior to data collection in order to understand the objectives of the research and about the questionnaires.

4. Target population was randomly selected from the hotspots according to the selected ward in each region.

5. Selected female sex workers were explained the purpose and process of the study, impact of participation, and benefits of information from this research. They will be provided with an inform consent before starting interview.

6. Self-administered questionnaires were given at privacy room. It will take around 30 minutes per a respondent. The questionnaire will be concealing name by using coding.

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7. Data entry and analysis were performed by researcher. After data analysis, the questionnaires were destroyed.

3.7 Data Analysis

Data was analyzed by using SPSS program version 18. Data analysis was included descriptive analysis and statistical analysis.

1. Descriptive statistics were used frequency, percent, mean, standard deviation, minimum and maximum. This part of analysis will be descripted respondent's characteristics, and independent and dependents variables.

2. Statistical analysis was performed using binary logistic regression and multiple logistic regression to analyze the factors association between dependent and independent variables. P value less than 0.05 was considered significant difference.

3.8 Ethical Consideration

This study was submitted to the ethical approval in a human research study by the Ethical Review Committee (IRB) for Human Research, Faculty of Public Health, Mahidol University, Thailand. And Ethical permission named the documentary Proof of Ethical Clearance No. MUPH 2020-057 Was issued on 20 March 2020.

This study followed the declaration of Helsinki (DoH). All participations were informed the purpose and process of study, impact of participating, and benefits of information from this research. They were provided an inform consent before starting interview.

The informed consent form was separated from the questionnaires to prevent the leakage of personal information. All the answers on questionnaires were kept confidential. If they feel uncomfortable about the questionnaires, they can quit from the study at any time they want. After data entry and analysis, all the questionnaires were destroyed.

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CHAPTER IV
RESULTS

This cross-sectional study aimed to explore the factors associated with HIV preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar. There were 179 participants aged >18 years who were randomly sampled by snow-ball sampling method. The participants were answered self-administered questionnaires.

The results are presented by frequency, percentage, mean, standard deviation, median, mode, minimum and maximum values. Binary logistic regression is used to determine the association between dependent and independent variables. Finally, multiple logistic regression was used to explore the factors associated with HIV preventive behaviors among female sex workers.

The results of the study include the following parts.

4.1 General characteristics of the study population

4.2 Predisposing, reinforcing and enabling factors of HIV preventive behaviors

4.3 HIV preventive behavior in female sex workers

4.4 Factors associated with HIV preventive behavior

4.1 General characteristics of the study population

The general characteristics of the respondents in this study include age, education, marital status, monthly income, living arrangement, residential instability and substance abuse as shown in table 4.1.

The age of the participants is >18 years old female sex workers with the average of 28.28 years and standard deviation of 6.373. Over half of the participants are in the age group between 21-30 years (53.6%), about one third are in the age group between 31-40 years (30.7%) and the least among the participants are aged >40 years (2.2%).

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Regarding to the education, more than half of the participants have finished primary school which is (53.6%). (41.9%) of the participants have finished secondary school and only (4.5%) of the respondents have attained high school education. There are no participants who are illiterate or who have achieved college or level of education.

Concerning about the marital status, nearly half of the respondents are married which is (47.5%). Almost one third of the participants are divorced or separated with (30.2%). The percentage of being single stands for 16.8% of the total and being widow shows the least percentage among all other categories of marital status which is (5.6%).

Regarding the monthly income part, more than half of the participants account for the low income with (51.4%). Nearly one third of the participants stands for middle income with (32.4%). Only 16.2% of all respondents have high income. The mean and the standard deviation of the monthly income are 328,435.75 Kyats and 187,403.34 Kyats respectively with the minimum being 100,000 Kyats and the maximum 1,000,000 Kyats.

Concerning with the living arrangement part, a quarter of the respondents are living alone which is (25.1%). Participants who live with familial relationship account for (41.9%). Nearly one third of the participants are living with friends and colleagues with (33%).

Regarding to the substance abuse using among the female sex workers, nearly half of the participants never use any kind of substance which is 49.2%. Other 50.8% of the participants account for substance abuse. Although the substance abuse category includes alcohol, cannabis, opioids, amphetamines and others, alcohol stands for 100% of the substance abuse using among all of the 50.8%.

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Table 4.1 General characteristics of study population (n=179)

General characteristics	Number	Percent
Age (completed age in years)		
≤ 20	24	13.4
21-30	96	53.6
31-40	55	30.7
> 40	4	2.3
(Mean ±SD= 28.18 ± 6.373), Min= 18, Max= 42		
Education		
Primary school	96	53.7
Secondary school	75	41.9
High school	8	4.5
Marital status		
Single	30	16.8
Married	85	47.5
Divorced/Separated	54	30.2
Widow	10	5.5
Monthly Income		
Low income	92	51.4
Middle income	58	32.4
High income	29	16.2
Mean (±SD) 328435.75±187403.34 Min= 100,000, Max= 1,000,000		
Living arrangement		
Live alone	45	25.1
Live with Familial relationship	75	41.9
Live with other	59	33.0
Substance abuse		
Never	88	49.2
Ever	91	50.8

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4.2 Predisposing, reinforcing and enabling factors of HIV preventive behaviors

Predisposing factors in this study consists of knowledge and attitude towards HIV preventive behaviors.

4.2.1 Knowledge about HIV preventive behavior

There are 15 items for knowledge about HIV preventive behaviors. It was divided into three levels including good, moderate and poor levels of knowledge. However, the results show that there is very low percentage of participants who have poor knowledge. As a consequence, participants who have poor and moderate knowledge are combined as need to improve knowledge ≤12 (≤ 80%) and good knowledge >12 (>80%). In this study, it is found that 54.2% of the participants have poor knowledge and 45.8% have good level of knowledge.

Table 4.2 Knowledge about HIV preventive behavior (n=179)

Knowledge	Number	Percent
Need to improve	97	54.2
Good	82	45.8

4.2.2 Attitude towards HIV preventive behavior

It is composed of 5 items and categorized into three categories including positive attitude (>60%) and negative attitude (≤60%). The results show that that 70.75% of the participants have negative attitude towards HIV preventive behavior and 29.05% have positive attitude towards it.

Table 4.3 Attitude towards HIV preventive behavior

Attitude	Number	Percent
Negative	127	70.9
Positive	52	29.1

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Reinforcing factors in this study consists of peer support, social support and social cohesion.

4.2.3 Peer support

Peer support consists of 4 questions which include emotional support, informational support, instrumental support and appraisal support. It is differentiated into three levels including good support which means (≥80%) of total score, fair support (60-79%) and poor support (<60%). In this study, the results show 47.49% of the participants receive poor peer support and the rest 52.51% are getting good peer support.

4.2.4 Health personal support

Social support comprised of 4 questions including emotional support, informational support, instrumental support and appraisal support. It is categorized into three levels which are good support (≥80%), fair support (60-79%) and poor support (<60%) of total score. The study shows 67.6% of the respondents have poor social support and the remaining 32.4% have good social support.

Table 4.4 Reinforcing factors in terms of peer support and health personal support

Characteristics	Number	Percent
Peer support		
Poor	85	47.5
Fair	40	22.3
Good	54	30.2
Health personal support		
Poor	90	50.3
Fair	31	17.3
Good	58	32.4

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Enabling factors composed of availability, accessibility, affordability and source of information regarding HIV preventive behaviors.

For availability, 100% of the participant state that clinics providing the HIV preventive services are available and 96.1% of them mention that they have enough clinic opening hours. More than 95% of the participants answer there is privacy of patients' information and availability of condoms and condom-friendly lubricants. In one question regarding the availability of (PrEP) medications, 67.6% of the participants answered "Do not know". According to scoring, 93.9% of the participants have high availability and only 6.1% of them have low availability.

Concerning with accessibility, nearly half of the participants (42.5%) state that it takes more than 30 minutes to go to HTC clinics. According to the scoring, 86% of the participants have low accessibility and only 14% of them have high accessibility.

For the source of information part, health care professionals are the major source of HIV related information disseminators to the participants with 54.2%. Most of the participants receive peer education program (90.5%) and it is easily understandable to the 90.5% of the participants. 43.6% of the participants have received the peer education program within last six months.

Table 4.5 Availability and accessibility of HIV preventive services (n=179)

Characteristics	Number	Percent
Availability		
Low availability	11	6.1
High availability	168	93.9
Accessibility		
Low accessibility	154	86.0
High accessibility	25	14.0

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Table 4.6 Enabling factors in terms of availability, accessibility, and source of information related to HIV preventive services (n=179)

Characteristics	Number	Percent
Availability		
Enough clinic opening hours	172	96.1
Availability of condoms	175	97.8
Convenient to go and access HTC clinics	102	57.0
Privacy of patients' waiting areas	173	96.6
Availability of (PrEP) medications	58	32.4
Times taken to go to HTC clinics		
More than an hour	44	24.6
More than 30 minutes	76	42.5
Less than 30 minutes	52	29.1
Less than 15 minutes	7	3.9
Source of information		
Radio	8	4.5
Television	5	2.8
Health professionals	97	54.2
Peer education program	44	24.6
Friends	25	14
Receive peer education program		
Yes	162	90.5
No	17	9.5
Understand the information		
Yes	160	98.77
No	2	1.23
Last attend peer education program		
More than 1 year	64	35.8
Within last 6 months	78	43.6
Within last 3 months	13	7.3
Within last month	8	4.5

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4.3 HIV preventive behaviors in female sex workers

The study shows that 93.3% of the participants use condoms correctly and consistently with clients and regular partners.

Table 4.7 HIV preventive behavior in female sex workers (n=179)

Characteristics	Number	Percent
Use condoms correctly and consistently		
Yes	167	93.3
No	12	6.7

4.4 Factors associated with HIV preventive behavior

4.4.1 Association between general characteristics and HIV preventive behavior

The table below shows the association between general characteristics and HIV preventive behavior among female sex workers in the study area. In this study, it is found that there is significant association between income and HIV preventive behavior (p value= 0.006). Participants with high income are 3.523 times more likely to good HIV preventive behavior than those with low income.

Moreover, there is significant association between living arrangement and HIV preventive behavior among the participants (p value= 0.012). It is found out that participants who live alone are 2.44 times more likely to have good preventive behavior than those who are living with family or friends.

Another variable which is significantly associated with HIV preventive behavior is substance abuse using among the participants (p value= <0.001). It is surprisingly found out that the participants who use psychoactive substances are 3.815 times more likely to have good behavior than those who do not use any kind of those substances.

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Table 4.8 Association between general characteristics and HIV preventive behavior (n=179)

Characteristics	HIV preventive behavior				p-value	OR (95%CI)
	Poor behavior		Good behavior			
	n	%	n	%		
Age						
≤21 years	12	50	12	50		1
> 21 years	85	54.8	70	45.2	0.658	0.824 (0.348-1.947)
Education						
Primary school	49	51	47	49		1
Secondary school	48	57.8	35	42.2	0.364	0.760 (0.421-1.373)
Sex work venues						
Outdoor	25	45.5	30	54.5		1
Indoor	72	58.1	52	41.9	0.12	0.602 (0.318-1.141)
Monthly income						
Low income	24	77.4	7	22.6		1
High income	72	49.3	75	50.7	0.006*	3.523 (1.43-8.677)
Living arrangement						
With family/friends	80	59.7	54	40.3		1
Alone	17	37.8	28	62.2	0.012*	2.44 (1.218-4.877)
Substance Abuse						
Never	62	70.5	26	29.5		1
Ever	35	38.5	56	61.5	<0.001*	3.815 (2.046-7.113)

**p value< 0.05*

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4.4.2 Association between predisposing factors and HIV preventive behavior

No significant association is found between predisposing factors in terms of knowledge, attitude and HIV preventive behavior among female sex workers. There are only 6.1% of participants are having poor knowledge. So the participants who have fair and poor level of knowledge are regrouped as poor. There is no participant who have good level of attitude towards HIV preventive behavior. So the participants who have fair to good level of attitude are regrouped as good level of attitude.

Table 4.9 Association between predisposing factors and HIV preventive behavior

Characteristics	HIV preventive behavior				p-value	OR (95%CI)
	Poor behavior		Good behavior			
	n	%	n	%		
Knowledge						
Poor	52	53.6	45	46.4		1
Good	45	54.9	37	45.1	0.865	0.95 (0.527-1.714)
Attitude						
Poor	68	53.5	59	46.5		1
Good	29	55.8	23	44.2	0.786	0.914 (0.478-1.794)

**p value<0.05*

4.4.3 Association between reinforcing factors and HIV preventive behavior

Reinforcing factors include 2 parts including peer-support and health personal support**.** There is significant association between peer support and HIV preventive behavior (p value=<0.001). Participants who receive good peer support are 3.712 times likely to have good preventive behavior than those who receive poor peer support.

Moreover, there is significant association between health personal support and HIV preventive behavior (p value= <0.001). Participants who receive good health personal support are 0.121 times likely to have to good HIV preventive behavior than those who receive poor health personal support.

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Table 4.10 Association between reinforcing factors and HIV preventive behavior

Characteristics	HIV preventive behavior				p-value	OR (95%CI)
	Poor behavior		Good behavior			
	n	%	n	%		
Peer-support						
Poor	32	37.7	53	62.3		1
Good	45	54.9	37	45.1	<0.001*	3.712 (1.998-6.899)
Health personal support						
Poor	48	39.7	73	60.3		1
Good	49	84.5	9	15.5	<0.001*	0.121 (0.054-0.268)

**P value<0.05*

4.4.4 Association between enabling factors and HIV preventive behavior

This part composed of availability, accessibility and source of information regarding HIV preventive behavior. There is significant association between availability of HIV preventive services and HIV preventive behavior (p value=0.035). The study shows that participants with high availability of HIV preventive services are 9.31 times more like to have good HIV preventive behavior than those with low availability of services.

Regarding accessibility, there is significant association between accessibility and HIV preventive behavior (p value= 0.02). Participants who are highly accessibility to HIV preventive services are 2.91 times more likely to good HIV preventive behavior than those who do not have high accessibility.

Moreover, there is significant association between participants who received peer education program and HIV preventive behavior (p value=.0001). Participants who received peer education program are 0.257 times more likely to have good HIV preventive behavior than those who do not.

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In addition, there is significant association between participants who have health information from both peer education program and friends and HIV preventive behavior among the participants (p value<0.02). Participants who have health information from both peer education program and friends are 0.478 times more likely to have good HIV preventive behavior.

Table 4.11 Association between enabling factors and HIV preventive behavior

Characteristics	HIV preventive behavior				p-value	OR (95%CI)
	Poor behavior		Good behavior			
	n	%	n	%		
Availability of HIV/AIDS prevention and services						
Low	10	90.9	1	9.1	0.035*	1
High	87	51.8	81	48.2		9.31 (1.166-74.359)
Accessibility of HIV/AIDS prevention and services						
Low	89	57.8	65	42.2	0.02*	1
High	8	32.0	17	68.0		2.91 (1.184- 7.15)
Source of information Radio/Television						
No	93	56.0	73	44.0	0.09	1
Yes	4	30.8	9	69.2		2.866 (0.849-9.680)
Peer education program & Friend information						
No	52	47.3	58	52.7		1
Yes	45	65.2	24	34.8	0.001*	0.257 (0.118-0.563)

**p value<0.05*

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4.5 Factors influencing the HIV preventive behavior among female sex workers

It is found out that HIV preventive behavior among female sex workers in Bago Township are determined by several factors including income, living arrangement, substance abuse using, peer support, health personal support, availability, accessibility, peer education program and friends' information about HIV preventive services. These factors are then analyzed by multiple logistic regression to explore the predictors of HIV preventive behavior while adjusting other factors.

After adjusting the confounding factors, high availability was found to have strong association with HIV preventive behavior (AOR=9.545, 95% CI: 1.196, 91.481)

Table 4.12 Factors influencing the HIV preventive behavior among female sex workers

Characteristics	Crude	Adjusted	p-value
	OR (95% CI)	OR (95% CI)	
Monthly Income			
High	3.523 (1.43-8.677)	2.076(0.645-6.679)	0.221
Low	1	1	
Living arrangement			
Alone	2.44 (1.218-4.877)	1.656(0.680-4.033)	0.267
Living with family /friends	1	1	
Substance abuse using			
Yes	3.815 (2.046-7.113)	1.435 (0.613-3.360)	0.406
No	1	1	
Peer support			
Good	3.712 (1.998-6.899)	1.376 (0.400-4.729)	0.612
Poor	1	1	
Health personal support			
Good	0.121 (0.054-0.268)	1.779 (0.540-5.860)	0.343
Poor	1	1	

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Table 4.12 Factors influencing the HIV preventive behavior among female sex workers (cont.)

Characteristics	Crude	Adjusted	p-value
	OR (95% CI)	OR (95% CI)	
Availability of HIV/AIDS prevention and services			
High	9.31 (1.166-74.359)	9.545 (1.996-91.481)	0.050*
Low	1	1	
Accessibility of HIV/AIDS prevention and services			
High	2.91 (1.184-7.15)	2.085 (0.645-6.736)	0.219
Low	1	1	
Peer education program and friends' information			
Yes	0.478 (0.257-0.89)	1.825 (0.821-4.056)	0.140
No	1	1	

**p value<0.05*

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CHAPTER V
DISCUSSION

The objective of the study was to explore the factors associated with HIV preventive behavior among female sex workers in Bago Township, Bago Division, Myanmar. The hypotheses were whether general characteristics, predisposing, reinforcing and enabling factors were associated with HIV preventive behavior. The discussion part is included two main components as following;

5.1 Research methodology

5.2 Results

5.3 Limitations of the study

5.1 Research Methodology

5.1.1 Study Design

This was a cross-sectional study conducted in Bago Township, Bago Division, Myanmar. However, this study cannot be covered the whole country, it could describe the snapshot of the study area. As it is a cross-section study, it could not explore the temporal sequence of the independent and dependent variables, and therefore it is unable to explore the cause and effect of the variables.

5.1.2 Study Site

The study site was Bago Township, Bago Division, Myanmar. Bago Township is located in the southern central part of the country. According to previous study, proportion of FSWs in seven cities including Bago, female sex workers who tested HIV and generated results was 43% (range between 28-73%), visited a drop-in center in last 3 months were 31% (ranged 8-67%), and consistent condom use with clients in last week was 94% but only 28.5% consistent condom use with regular partners. In this study, a small sample size was taken from Bago area. (n=48)(12). This

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area is a pathway to connect upper and lower regions of Myanmar. A lot of migration showed in this area and it has very high number of female sex workers. According to those evidence, situation of HIV preventive behaviors in Bago's FSWs were at high risk to spread the HIV infection. To prevent further HIV transmission in this area, it is important to explore the associated causes to HIV preventive behaviors among FSWs in Bago.

5.1.3 Study population and sample

The female sex workers of aged >18 are the study population. This study used the formula of Daniel & Cross for sample size calculation. This study added 10% to the calculated number of the study sample size to reduce the small sample size during data analysis. After data collection, there were no missing data is found. Data cleaning was performed during data entry.

This study used snowball sampling technique to get the samples according to sample size calculation. However, the study does not demand that the findings are generalizable for all population in Myanmar.

5.1.4 Research Instrument

This study used the structured questionnaires for self-administered questionnaires. The questionnaires were developed based on theory and high quality published manuscripts and thesis worldwide. Regarding to the hypothesis of the study, the PRECEDE-PROCEED model was used to explore the factors associated with HIV preventive behavior. The content validity of the questionnaires was accessed by two experts in related field and some items were changed according to experts. After that the questionnaires were translated into Myanmar version. It was pilot tested with 30 female sex workers in the township. The result was analyzed to determine the reliability of the measurement. The Cronbach's alpha coefficient in this study was more than 0.7 which is a good reliability of measurement.

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5.1.5 Data analysis

While doing data analysis, frequency, mean, median, mode, maximum and minimum of the variables were calculated by using SPSS software. Binary logistic

regression was used to explore the significance and odds of association between independent and dependent variables. Multiple logistic regression was also used to measure the association after controlling confounders.

5.2 Results

The results are composed as followings;

5.2.1 General characteristics of the participants

5.2.2 Association between general characteristics and HIV preventive behavior

5.2.3 Association between predisposing factors and HIV preventive behavior

5.2.4 Association between reinforcing factors and HIV preventive behavior

5.2.5 Association between enabling factors and HIV preventive behavior

5.2.1 General characteristics of the participants

The findings showed that most of the respondents in this study are young adults aged between 21-30, had low education, married, currently doing full-time work, low-income, mostly living with familial relationship with residential instability. About 50% of participants have habit of used substance abuse.

5.2.2 Association between general characteristics and HIV preventive behavior

Age

Age was not significantly associated with HIV preventive behavior in this study. Although, there was no significant association between the two variables, 54.8% of the participants who aged >21 years have poor HIV preventive behavior. This might be due to the fact that they need to earn more for their living, have more responsibilities within their families. These factors lead them to accept unprotected sex if the clients offer more. In contrast, other studies have also indicated that adolescent

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FSWs are of higher risk of sexual behaviors as compared to older ones. Adolescent FSWs reported inconsistent condom use and lacked condom negotiation skills, low knowledge of HIV, and more anal sex and a greater number of customers per week, as compared to older FSWs(31). To conclude, the contrary results within the current study might be because of the difference in study area and population.

Education

There is no association is found between education and HIV preventive behavior in this study. This might be due to the fact that our education system does have impact to increase the participants' knowledge about HIV preventive behaviors. In contrast, one study was done related to safer sex negotiation and its association with condom use among clients of female sex workers (FSWs) in Bangladesh. Data were collected from 484 FSWs living in Dhaka city following a convenient sampling procedure. Both bivariate and multivariable binary logistic regression analyses yielded significantly increased risk of negotiation for safer sex with clients among FSWs with higher education(33). To sum up, the reason why no significant association was found is that most of the participants in the study do not have much difference in education level.

Sex work venues

This variable also does not have significant association with HIV preventive behavior. One study found that brothel workers were found to be considerably less exposed to HIV risk than the women working on the streets. The absence of legal protection for street workers, extreme social isolation and lack of community support are experienced by women in their attempts to insist on condoms for all sex services(37). On the other hand, another study done in Nigeria shown that HIV prevalence among brothel based female sex workers is 19.4%, and 8.6% for non-brothel based female sex workers(38). It seems like both indoor and outdoor sex workers are facing the same difficulties in pursuing good HIV preventive behavior in the study area.

Monthly income

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Monthly income is found to be significantly associated with HIV preventive behavior in this study p value= (0.006). The finding is consistent with one study done in Two Northern Border Cities of Mexico related to "Condom Access:

Associations with Consistent Condom Use among Female Sex Workers." The study proved that factors inversely associated with consistent condom use included poor financial status(40). However, a cross-sectional study was done in Zhejiang province, China related to consistent condom use and its correlates among female sex workers at hair salons in 2017. It indicated that educational level, marital status, having a son/daughter, and monthly incomes were not associated with self-reported consistent condom use(39). To conclude, the association found in the study might be explained by the fact that participants with high income are likely to be more affordable to preventive services than those with low income.

Living arrangement

There is significant association between the living arrangement HIV preventive behavior among the participants (p value= 0.012). The finding is consistent with one study done in China related to social network and HIV risk behaviors in female sex workers in 2018. In final multivariate model, after adjusting for socio-demographic variables, support from family members and friends had significant association with condom use(41). In this study, it was surprisingly found out that living alone is found to be significantly associated with good HIV preventive behavior. This might be due to the fact that the participants who live alone are having good awareness of the HIV preventive services because there might be no one else to take care of them if they get sick.

Substance Abuse

Substance abuse using is significantly associated with HIV preventive behavior (p value= <0.001). According to one study was conducted in Iran related to substance use and its correlates in women engaged in sex work in a developing country setting. It was found out substance use was positively associated with higher number of sexual partners, housing instability, and history of forced sex(43). In comparison with previous study, the study found out that substance use is positively associated with good HIV preventive behavior. This might be due to the fact that the participants only drink alcohol but neither inject drugs nor use opioids, narcotics, and amphetamines. They might also be social drinkers and have good influence on clients and good negotiation skills of condom use.

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5.2.3 Association between predisposing factors and HIV preventive behavior

Knowledge

Knowledge was not significantly associated with the dependent variable (HIV preventive behavior). The finding was not consistent with a cross-sectional survey conducted about HIV, other sexually transmitted infections, and risk behaviors among female sex workers in Liuzhou, China. It was found out that inconsistent condom use was least likely in female sex workers with high HIV knowledge and previous history of tested HIV(45). To conclude, the reason why there is no association between the two variables might be because the participants might have good knowledge about HIV but they are not putting it into practice.

Attitude

There was no significant association between attitude and HIV preventive behavior among the participants in this study area. The finding did not come along with a cross-sectional study was done in Hubei Province, China related to Predictors of Condom Use Behaviors among Female Sex Workers. They found that clients' requests and extra payment for not using condoms were major barriers(47). Similar results were found in one study conducted in Spain related to Condom Use Among Female Sex Workers in Catalonia: Why Do They Use a Condom, Why Don't They Use It? The result stated that both condom use and non-condom use represent strategies that FSWs use mainly when confronted by threats to things they consider important(46). To sum up, the participants could have good attitude towards HIV preventive behavior. No association in the current study might be because they know do not feel confident in their ability to follow the safety measures. Sometimes they also might have encountered unplanned sexual intercourse and failed to access routine HIV preventive services.

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5.2.4 Association between reinforcing factors and HIV preventive behavior

Peer support

Significant association was found between peer support and HIV preventive behavior p value (<0.001). The finding is not consistent with a study conducted in China about social support and condom use among female sex workers. It was shown that support from peer volunteers of the FSWs did not play a significant role in promoting safer sexual behaviors(51). In this study, participants who received good peer support are 3.712 times more like to have good preventive behavior than those who received poor peer support. This might be due to the fact that peer volunteers could have different levels of knowledge and attitude to support each other in different study areas.

Health personal support

There is significant association between health personal support and HIV preventive behavior among the participants (p value< 0.001). The finding is consistent with a study conducted in China about social support and condom use among female sex workers. The FSWs with higher emotional support from friends were more likely to use condoms correctly and tangible support was not significantly predictive of condom use measures among the FSWs(51). In this study, it showed that participants who received good health personal support are 0.121 times more likely to have good preventive behavior than those who received poor health personal support. Having the association between these variables might be due to the fact that participants in this study were taking the good chance of having good HIV preventive behavior although good health personal support.

5.2.5 Association between enabling factors and HIV/AID preventive behavior

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Availability of HIV/AIDS prevention and services

There was significant association between high availability of HIV/AID preventive services and good HIV preventive behavior (p value=0.035) among

participants. This finding is in line with the results of a cross-sectional survey related to correlates of condom use among female sex workers in Gambia showed that FSWs were more likely to report that women who bought all their condoms were less likely to have used a condom at last vaginal or anal sex than those who received all of their condoms for free(53). This variable in the study include availability of HTC services, having privacy at patients' waiting areas, confidentiality of information, and availability of free condoms, lubricants, and pre-exposure prophylaxis (PrEP) medications.

Accessibility

Accessibility is significantly associated with HIV preventive behavior in this study (p value=0.02). Similar result was found in one study done for detailed documentation of various aspects of sex work, and sexual behavior with regular sex partners. It was done through confidential interviews for 6648 FSWs in 13 districts in the Indian state of Andhra Pradesh. Multivariate analysis was done. Of these 2907 reported non-use of condom with at least one of her last three clients because there was no access to free condoms (54). There was positive association between accessibility and HIV preventive behavior among the participants. This variable in the study include accessibility to understandable health information, convenient transportation and time taken to do so.

Source of information

Regarding the source of information about HIV preventive behavior, it is multiple response questions. Among those answers, attended peer education program and health information from friends are significantly associated with good HIV preventive behavior (p value= 0.02). (55). In this study, there was only 13% of participants who receive health information from mass media like radio, television. This is inconsistent with a study conducted in a rural area in Guangxi, China, related to the information sources associated with the HIV-related knowledge among low-paying female sex workers. It was shown that free materials (64.6%) and TV (59.3%) were identified as the two main sources of HIV-related knowledge(56). It seems like peer education program and health information from friends play crucial role in having good HIV preventive behavior among the participants.

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5.3 Limitations of the study

Being a cross sectional study, it could not explore the temporal sequence of independent and dependent variables. In addition, as the data was subjective, there might be bias in some private information such as history of sexual intercourse, number of clients and regular partners and their real sex acts.

As soon as I came back to my country for data collection, I had to stay self-quarantine for 2 weeks at home according to request from neighbors. So I had to postpone data collecting process of my thematic paper study. Due to Covid-19 pandemic throughout the whole process of data collection, it was hard to reach the targeted total sample size. Preventive measures were put in place for researchers, health care volunteers and participants to contain the deadly virus.

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CHAPTER VI
CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study was a cross sectional study conducted in Bago Township, Bago Division, Myanmar. The objectives of the study were to access the HIV/AIDS preventive behaviors among female sex workers, to examine the predisposing, reinforcing and enabling factors influencing the HIV preventive behaviors and to explore the relationship between general characteristics, predisposing, reinforcing and enabling factors and HIV preventive behaviors among female sex workers in Bago. The sample size was 179 female sex workers sampled by snowball sampling technique. The content validity of the questionnaires was accessed by two experts in relevant fields and some items were changed according to experts. After that the questionnaires were translated into Myanmar version. It was pilot tested with 30 female sex workers in the township. The result was analyzed to determine the reliability of the measurement. The data collection was done from 10th May to 9th June. Date were input and analyzed by using SPSS software (Version 18). The study was composed of descriptive and analytic statistics. Descriptive statistics was in form of frequency, percentage, mean, median, standard deviation, minimum and maximum values. Binary logistic regression and multiple logistic regression were used to explore the association between the dependent and independent variables. P value <0.05 is considered statistically significant and failed to reject the null hypothesis of the study.

This study applied the phase 3 of PRECEDE-PROCEED model which explore the predisposing, reinforcing and enabling factors associated with HIV preventive behavior among female workers. This will be useful for policy makers and health professionals in promoting the HIV preventive behavior among female sex workers in the area.

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6.2 Recommendation

For implementation

It was found out that independent variables like income, living arrangement, substance abuse using, peer support, health personal support, availability, accessibility, affordability, peer education program and friends' information about HIV preventive services were significantly associated with HIV preventive behavior among female sex workers. Therefore, these determinants should be taken into account for implementation.

(1) In monthly income part, more than half of the participants account for the low income with (51.4%). Nearly one third of the participants were middle income (32.4%) and only 16.2% of all respondents have high income. There is significant association between income and HIV preventive behavior (p value= 0.006). Participants with high income are 3.523 times more likely to good HIV preventive behavior than those with low income. It means that the government should create more job opportunities for women of reproductive age to get better income.

(2) A quarter of the respondents are living alone which is (25.1%). Participants who live with familial relationship account for (41.9%). Nearly one third of the participants are living with friends and colleagues with (33%). There was significant association between living arrangement and HIV preventive behavior among the participants (p value= 0.012). It was found out that participants who live alone are 2.44 times more likely to have good preventive behavior than those who are living with family or friends. It means that the health care professionals, and peer volunteers should provide additional health information programs to the family, friends and colleagues of the female sex workers.

(3) Regarding to the substance abuse using among the female sex workers, nearly half of the participants never use any kind of substance which is 49.2%. Other 50.8% of the participants account for substance abuse. Although the substance abuse category includes alcohol, cannabis, opioids, amphetamines and others, alcohol stands for 100% of the substance abuse using among all of the 50.8%. Substance abuse is significantly associated with HIV preventive behavior among the participants (p value= <0.001). It was surprisingly found out that the participants who

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use psychoactive substances are 3.815 times more likely to have good behavior than those who do not use any kind of those substances. In this study, the participants who drink alcohol were mostly social drinkers. They could have good communication with clients and good condom negotiation skills which lead them to have good HIV preventive behavior. However, the government should increase taxes for alcohol so as not to get addicted. They should also ban drinking alcohol in public places.

(4) In this study, the results show 47.49% of the participants receive poor peer support and the rest 52.51% are getting good peer support. Participants who receive good peer support are 3.712 times likely to have good preventive behavior than those who receive poor peer support. Peer supporters need to develop new strategies while approaching the female sex workers. Hearing the same things repeatedly could make them consider less important to them. Capacity building of the peer volunteers should also be considered.

(5) The study showed that 67.6% of the respondents have poor health personal support and the rest 32.4% have good social support. There was significant association between social support and HIV preventive behavior. Participants who received good health personal support are 0.121 times likely to have to good HIV preventive behavior than those who receive poor health personal support. Those participants should be learned and educated to practice good HIV preventive behavior through good health personal support and resources available from family, friends and health professionals.

(6) There was significant association between availability and HIV preventive behavior among the female sex workers. The study shows that participants with high availability of HIV preventive services are 9.31 times more like to have good HIV preventive behavior than those with low availability of services. More than 90% of the participants mentioned there is the availability of HTC clinics with enough clinic opening hours, availability of condoms and condom-friendly lubricants, confidentiality of patients' information, and having privacy in patients' waiting areas. Although more than 50% of the participants knew about pre-exposure prophylaxis (PrEP) medications and its availability, the others did not know or had no ideas about those PrEP medications. Therefore, the health professionals, NGOs and government

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sectors should deliver the message regarding the availability of (PrEP) and its pros and cons.

(7) Apart from that, more than half of the participants (57%) are conveniently accessible to HIV preventive services and nearly one third (29.1%) of them find it very convenient to go. Nearly half of the participants (42.5%) state that it takes more than 30 minutes to go to HTC clinics. 94.4% of the information provided from HTC clinics are understandable to the participants. There was significant association between accessibility and HIV preventive behavior. The NGOs and the government sectors should promote accessibility through internet and deliver the HIV preventive information via internet.

(8) Health care professionals are the major source of HIV related information disseminators to the participants with 54.2%. In another question regarding the participants who received peer education program, 90.5% of them said "Yes" and it is easily understandable to 98.77% of the participants. 43.6% of the participants had received the peer education program within last six months. Participants who had attended peer education programs and got health information from friends are significantly associated with good HIV preventive behavior. Peer education programs should be carried out more frequently and peer friends should also be invited.

For further research,

(1) To understand more about the process of decision making for HIV preventive behavior, further study should focus on qualitative approach including focus group discussion and in-depth interviews.

(2) The study was conducted in urban area so that another study should be more focused in semi-urban area. In this way, the factors associated with HIV preventive behavior might be different according to the context of different areas.

(3) The study used self-administered questionnaires within the community, another study should be done in different settings like face-to-face interviews or online based survey.

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APPENDICES

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APPENDIX A
QUESTIONNAIRES (ENGLISH)

Date……/……/2020

ID Number …….

Ward Number …….

Name of interviewer …….

Instruction: Please mark (√) in and fill the words by the respondents' answers.

Please inform to the respondent that all the answers written in the questionnaire will be kept confidential and the data will be used only for research purpose.

Part 1: General Characteristics

Age (completed) …… years

Education

1. Illiteracy
2. Primary
3. Secondary school
4. High school
5. College or higher

Marital status

1. Single
2. Married
3. Divorced/Separated
4. Widow
4. Others (Specify)……..

Sex work venues

1. Indoor
2. Outdoor

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Monthly income ……kyats

Living arrangements relationship

1. Alone
2.Familial
3. Non-familial

Frequency of residential moves within a course of year

1. Yes
2. No

If yes, how often…… / year

Substance abuse

1. Alcohol
2. Cannabis
3. Amphetamines
4. Opioids
5. Others (Specify)…….

Part 2: Predisposing Factors

2.1 Knowledge about HIV preventive behaviors

No.	Statement	Yes	No	Not sure
1.	AIDS is caused by HIV virus			
2.	Mosquito bites or insect bites can cause HIV infection			
3.	HIV is transmitted by having meal together with HIV infected person			
4.	HIV can be transmitted by unprotected sex with HIV infected person			
5.	HIV can be protected by proper use of condoms			
6.	Pregnant mother with HIV infection can infect fetus			

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No.	Statement	Yes	No	Not sure
7.	HIV can be transmitted by infusion of HIV infected blood			
8.	HIV/AIDS is a curable disease			
9.	HIV can be transmitted by needle sharing with HIV infected person			
10.	HIV antibody can be detected in blood in few days after being infected			
11.	Cleaning sex organ immediately after sex can prevent from getting HIV			
12.	HIV can be transmitted by			
	shaking hand with HIV infected person			
13.	Tuberculosis is the most common opportunistic infection in AIDS patients			
14.	HIV infected person with undetectable viral load can transmit infection to others			
15.	HIV can be transmitted by tattooing			

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2.2 Attitude towards HIV preventive behaviors

No.	Statement	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
1.	Having multiple partners is risky to get HIV					
2.	HIV attacks immune system and prone to get many infections and death due to those infections					
3.	HIV infected person can get both physical and psychological problems					
4.	Having sex with only regular partner can reduce HIV transmission					
5.	Asking partner for condom use is appropriate					

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Part 3: Reinforcing Factors

3.1 Peer support

1. I receive the emotional support from peer volunteers within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

2. I receive the information about HIV/AIDS preventive behaviors from peer volunteers within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

3. Peer volunteers provide me condoms and compatible lubricants within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

4. Peer volunteers make you feel valued and promote self-esteem within last 6 months

1. Most of the time 2. Often 3. Sometimes 4. Never

3.2 Health personals support

1. I receive the emotional support from health care personals within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

2. I receive the information about HIV/AIDS preventive behaviors from health care personals within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

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3. Health care personals provide me condoms and compatible lubricants within last 6 months.

1. Most of the time 2. Often 3. Sometimes 4. Never

4. Health care personals make you feel valued and promote self-esteem within last 6 months

1. Most of the time 2. Often 3. Sometimes 4. Never

Part 4: Enabling Factors

4.1 Availability of HIV preventive services

1. The HIV counseling and testing services are available in Bago Township.

1. Yes 2. No 3. Do not know

If yes, there is enough clinic opening hours to access the services

1. Yes 2. No

2. They have confidentiality of patients' information

1. Yes 2. No

3. There is privacy at patients' waiting areas

1. Yes 2. No

4. Availability of condoms and condom-friendly lubricants at those clinics giving theHTC services

1. Yes 2. No

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5. Pre-exposure prophylaxis (PrEP) medications are available at those clinics in BagoTownship

1. Yes 2. No 3. Do not know

4.2 Accessibility of HIV preventive services

1. Is it convenient for you to go those places where HTC services are given?

1. Very convenient 2. Convenient
3. Difficult 4. Very difficult

2. How long does it takes to go to the clinics where HTC services are available?

1. Less than 15 minutes 2. Less than 30 minutes
3. More than 30 minutes 4. More than an hour

3. The information provided from HTC clinics are understandable to me.

1. Yes 2. No

5.3 Source of information about HIV/AIDS preventive behavior

1. What are the sources of HIV/AIDS related information that you received?

(More than one answer is possible)

1. Radio 2. Television
3. Health professionals 4. Peer education program
5. Newspaper 6. Friends
7. Family members 8. Journals/Magazine
9. Others (Specify)…….

2. Have you ever received a peer education program?

1. Yes
2. No

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If Yes, when did you attend the last session?

1. Within last month

2. Within last 3 months

3. Within last 6 months

4. More than 1 year

If Yes, is it easy to understand the information given by peer educator?

1. Yes

2. No

Part 6: HIV preventive behaviors

1. I use condoms correctly and consistently with clients and regular partners

1. Yes 2. No

If Yes, do you use compatible lubricants along with condoms?

1. Yes 2. No

2. I can negotiate successfully to clients and regular partners for condom use?

1. Yes 2. No

3. I do routine HIV counseling and testing

1. Yes 2. No

4. I am willing to take pre-exposure prophylaxis (PrEP) medications if doctorprescribe.

1. Yes 2. No

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If No, what is the reason for not taking the drug.

1. Afraid of adverse drug side effects

2. Friends and family might think I have HIV

3. Afraid of drug resistant later on

4. I am concerned about drug adherence

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APPENDIX B

QUESTIONNAIRES (IN MYANMAR)

မေးခွန်းလွှာ

နေ့စွဲ ...../...../.....

အမှတ်စဉ်နံပါတ်.....။

ရပ်ကွက်နံပါတ် .....။

အင်တာဗျူးသူ၏အမည် .....။

ညွှန်ကြားချက်ကျေးဇူးပြု၍ (√)ကို အမှတ်တံအသားပြုပြီး ဖြေဆိုပါ။ မေးခွန်းလွှာ၌ ရေးထားသည့် အဖြေများကို လျှို့ဝှက်ထားမည်ဖြစ်ပြီး အချက်အလက်များကို သုတေသနအတွက်သာ အသုံးပြုလိမ့်မည်ဖြစ်ကြောင်း ဖြေကြားသူအား အကြောင်းကြားအပ်ပါသည်။

အပိုင်း က။ အထွေထွေဝိသေသလက္ခဏာများ

အသက် (ပြည့်ပြီး) ..... နှစ်

ပညာရေး

၁။ စာမတတ် ၂။ မူလတန်းကျောင်း

၃။ အလယ်တန်းကျောင်း ၄။ အထက်တန်းကျောင်း

၅။ ကောလိပ်သို့မဟုတ် အထက်

အိမ်ထောင်ရေးအခြေအနေ

၁။ လူပျို ၂။ လက်ထပ်ခဲ့သည်

၃။ ကွာရှင်းခြင်း ၄။ မုဆိုးမ

၅။ အခြား (အသေးစိတ်ဖော်ပြပါ) .....။

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အလုပ်အကိုင် (လိင်အလုပ်မှအပ အခြားအလုပ်အကိုင်)

၁။ အချိန်ပိုင်း ၂။ အချိန်ပြည့်

၃။ အခြား (အသေးစိတ်ဖော်ပြပါ) .....။

လိင်အလုပ်အမျိုးအစား

၁။ သတ်သတ်မှတ်မှတ်အလုပ်ခွင်၌ အခြားသူများနှင့်အတူ အလုပ်လုပ်ကြသည်

၂။ အလွတ်တန်း

လစဉ်ဝင်ငွေ ..... ကျပ်

ပစ္စည်းအလွဲသုံးစားမှု

၁။ အရက် ၂။ ဆေးခြောက်

၃။ အမ်ဖီတာမင်း ၄။ ဘိန်း

၄။ အခြား (အသေးစိတ်ဖော်ပြပါ).....။

အပိုင်း ခ။ ခန့်မှန်းချက်များ

၂.၁ အိပ်ရှိအိုင်ဗိုကြိုတင်ကာကွယ်ရေးအပြုအမူနှင့်ပတ်သက်သော ဗဟုသုတ

ဖော်ပြချက်	ဟုတ်ပါသည်	မဟုတ်ပါ	မသေချာပါ
၁။အေအိုင်ဒီအက်စ်သည် အိပ်ရှိအိုင်ဗွိပိုးကြောင့် ဖြစ်သည်			
၂။ ခြင်ကိုက်ခြင်း သို့မဟုတ် အင်းဆက်ပိုးကိုက်ခြင်းသည် အိပ်ရှိအိုင်ဗွိ ပိုး ကူးစက်စေနိုင်သည်။			

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ဖော်ပြချက်	ဟုတ်ပါသည်	မဟုတ်ပါ	မသေချာပါ
၃။အိပ်ချိုအိုင်ဗွိုပိုး ကူးစက်ခံထားရသူနှင့်အတူ အစာစားခြင်းဖြင့် ကူးစက်သည်			
၄။အိပ်ချိုအိုင်ဗွိုပိုး ကူးစက်ခံထားရသူနှင့်အတူ အကာအကွယ်မဲ့ လိင်ဆက်ဆံမှုဖြင့် ကူးစက်နိုင်သည်			
၅။အိပ်ချိုအိုင်ဗွိုပိုးကို ကွန်ဒုံးမှန်မှန်အသုံးပြုခြင်းဖြင့် ကာကွယ်နိုင်သည်			
၆။အိပ်ချိုအိုင်ဗွိုပိုးကူးစက်ခံထားရသောကိုယ်ဝန်ဆောင်မိခင်သည် သန္ဓေသားကိုကူးစက်နိုင်သည်			
၇။ အိပ်ချိုအိုင်ဗွိုပိုးကူးစက်ခံထားရသောသွေးကို ပြန့်ပွားခြင်းဖြင့် ကူးစက်နိုင်သည်			
၈။အိပ်ချိုအိုင်ဗွို/အေအိုင်ဒီအက်စ်သည်ကုသနိုင်သောရောရာဂါဖြစ်သည်			
၉။အိပ်ချိုအိုင်ဗွိုပိုးကူးစက်ခံထားရသူနှင့်ဆေးထိုးအပ်ဖြင့်ကူးစက်နိုင်သည်။			

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ဖော်ပြချက်	ဟုတ်ပါသည်	မဟုတ်ပါ	မသေချာပါ
၁၀။အိပ်ချ်အိုင်ဗီခန္ဓာကိုယ်ကာကွယ်ရေးပစ္စည်း (Antibody)ကိုရောဂါကူးစက်ပြီးရက်A နည်းငယ်A တွင်း သွေးထဲတွင် တွေ့ရှိနိုင်သည်။			
၁၁။ လိင်A ဂါကို လိင်ဆက်ဆံပြီးနောက် ချက်ချင်းသန့်စင်ခြင်းသည် A ိပ်ချ်A ိုင်ဗွိပိုး ကူးစက်ခြင်းကို တားဆီးနိုင်သည်			
၁၂။ A ိပ်ချ်A ိုင်ဗွိပိုး ကူးစက်ခံထားရသူနှင့် လက်ဆွဲနှုတ်ဆက်ခြင်းဖြင့် A ိပ်ချ်A ိုင်ဗွိပိုးကူးစက်နိုင်သည်			
၁၃။ တီဘီရောဂါသည် ၎A A ိုင်ဒီA က်လူနာများA တွက် A ခွင့် A လမ်း A များဆုံးရောဂါဖြစ်သည်			
၁၄။ မမြင်နိုင်သော ဗိုင်းရပ်စ်နှိမ်နှင်းမှုခံထားရသော A ိပ်ချ်A ိုင်ဗွိပိုးရှိသူ သည် ရောဂါကူးစက်မှုကို A ခြားသူများသို့ ကူးစက်နိုင်သည်			
၁၅။ A ိပ်ချ်A ိုင်ဗွိကို တက်တူးထိုးခြင်းဖြင့် ကူးစက်နိုင်တယ်			

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၂.၂ A°ပ်ဲ့A°င်ဖွ ကာကွယ်တားဆီးရေးA ပြုA မူများA ပေါ် ထားရှိသည့်သဘောထား

ထုတ်ပြန်ချက်	ပြင်းပြင်းထန် ထန်ထန်သဘောတူသည်	သဘောတူသည်	မသေချာ မရေရာ	သဘောမတူ	လုံးဝသဘောမတူ
၁။မိတ်ဖက်များစွာရှိခြင်းသည် A°ပ်ဲ့A°င်ဖွပိုး ကူးစက်ရန်Aန္တရာယ်များသည်					
၂။A°ပ်ဲ့A°င်ဖွသည် ကိုယ်ခံA ားစနစ်ကို ထိုးဖောက်ပြီး ရောဂါပိုးကူးစက်မှုကြောင့် ရောဂါ ပိုး များစွာ ကူးစက်ခံရပြီး သေဆုံးနိုင်သည်					
၃။A°ပ်ဲ့A°င်ဖွပိုးရှိသူသည် ရုပ်ပိုင်းဆိုင်ရာနှင့် စိတ်ပိုင်းဆိုင်ရာပြ Problems နာနှစ်ခုလုံးကို ကြုံတွေ့နိုင်သည်					
၄။ပုံမှန်လက်တွဲဖော်နှင့်သာ လိင်ဆက်ဆံလျှင် HIV ကူးစက်မှုကို လျော့နည်းစေသည်					

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၅။မိတ်ဖက်A ၁း ကွန်ဒုံးA သုံးပြုရန် တောင်းဆို ခြင်းသည် သင့်လျော်ပါသည်					

A ပိုင်း ဂ။ A ၁းဖြည့်ချက်များ

၃.၁ ရွယ်တူချင်းထောက်ခံမှု

ပြီးခဲ့သည့် ၆လA တွင်း ရွယ်တူချင်းစေတနာ့ဝန်ထမ်းများထံမှ ကျွန်ုပ်သည် စိတ်ပိုင်းဆိုင်ရာ ပံ့ပိုးမှုရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြာခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

လွန်ခဲ့သော ၆လA တွင်း ရွယ်တူချင်းစေတနာ့ဝန်ထမ်းများထံမှ A°ပ်ချA°င်ဗီ/ ေA A°င်ဒီA က်စ်ကြိုတင်ကာကွယ်ရေး A ပြုA မူများA ကြောင်းကို ကျွန်ုပ်ရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြာခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

သက်တူရွယ်တူလုပ်A ၁းပေးများသည် လွန်ခဲ့သော ၆လA တွင်း ကျွန်ုပ်A ၁း ကွန်ဒုံးများနှင့် သဟဇာတဖြစ်သော ချောဆီကိုပေးသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြာခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

ပြီးခဲ့သည့် ၆လA တွင်း ရွယ်တူချင်း စေတနာ့ဝန်ထမ်းများထံမှ ကျွန်ုပ်သည် စိတ်ပိုင်းဆိုင်ရာ ပံ့ပိုးမှုရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြာခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

လွန်ခဲ့သော ၆လA တွင်း ရွယ်တူချင်း စေတနာ့ဝန်ထမ်းများထံမှ A°ပ်ချA°င်ဗွီ/ေA A°င်ဒီA က်စ်ကြိုတင်ကာကွယ်ရေး A ပြုA မူများA ကြောင်းကို ကျွန်ုပ်ရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြာခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

သက်တူရွယ်တူလုပ်A ၁းပေးများသည် လွန်ခဲ့သော ၆လA တွင်းကျွန်ုပ်A ၁း ကွန်ဒုံးများနှင့် သဟဇာတဖြစ်သော ချောဆီကိုပေးသည်

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၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

သက်တူရွယ်တူလုပ်A ၊းပေးများသည် လွန်ခဲ့သော ၆လA တွင်းသင့်A ၁း တန်ဖိုးထားခြင်းနှင့်မိမိကိုယ်ကို လေးစားမှုကို မြှင့်တင်ပေးသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

၃.၂ ကျန်းမာရေးဝန်ထမ်းများထံမှA ထောက်A ပံ့

ပြီးခဲ့သည့်၆လA တွင်း ရွယ်တူချင်းကျန်းမာရေးဝန်ထမ်းများထံမှကျွန်ုပ်သည် စိတ်ပိုင်းဆိုင်ရာပံ့ပိုးမှုရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

လွန်ခဲ့သော၆လA တွင်းရွယ်တူချင်းကျန်းမာရေးဝန်ထမ်းများထံမှ A°ပ်ချA°င်ဗွီ/ဧA A°င်ဒီA က်စ် ကြိုတင်ကာကွယ်ရေး A ပြA မှုများA ကြောင်းကိုကျွန်ုပ်ရရှိသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

ကျန်းမာရေးဝန်ထမ်းများသည် လွန်ခဲ့သော ၆လA တွင်း ကျွန်ုပ်A ၁း ကွန်ဒုံးများနှင့်သဟဇာတဖြစ်သော ချောဆီကိုပေးသည်။

၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

ကျန်းမာရေးဝန်ထမ်းများသည် လွန်ခဲ့သော ၆လA တွင်း သင့်A ၁း တန်ဖိုးထားခြင်းနှင့် မိမိကိုယ်ကို လေးစားလမှုကို မြှင့်တင်ပေးသည်

၁။ A ချိန်A များစုမှာ ၂။ မကြောခဏ ၃။ တခါတရံ ၄။ ဘယ်တော့မှ

၄.၁ A°ပ်ချA°င်ဗွီကာကွယ်ရေး ဝန်ဆောင်မှုများ ရရှိခြင်း

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HTC A ကြံပေးခြင်းနှင့် စစ်ဆေးခြင်းဝန်ဆောင်မှုများကို ပဲခူးမြို့တွင် ရရှိနိုင်သည်။

၁။ ဟုတ်သည် ၂။ မရှိပါ ၃။ မသိဘူး

ရှိပါက ဝန်ဆောင်မှုများကို ရယူရန် ဆေးခန်းဖွင့်ရန် A ချိန်လုံလောက်ရှိသည်

၁။ ဟုတ်သည် ၂။ မရှိပါ

သူတို့ကလူနာ "A ချက်A လက်များ၏ လှျို့ဝှက်ချက်ရှိသည်

၁။ ဟုတ်သည် ၂။ မရှိပါ

လူနာများစောင့်ဆိုင်းသည့် နေရာများတွင် သီးသန့်တည်ရှိသည်

၁။ ဟုတ်သည် ၂။ မရှိပါ

HTC ဝန်ဆောင်မှုများပေးသော ဆေးခန်းများတွင် ကွန်ဒုံးနှင့် ကွန်ဒုံးနှင့် A ဆင်ပြေသော ချောဆီကို ရနိုင်သည်

၁။ ဟုတ်သည် ၂။ မရှိပါ

ပဲခူးမြို့နယ်ရှိ ဆေးခန်းများတွင် ကြိုတင်ထိရောက်စွာ ကြိုတင်ကာကွယ်ထားသော ဆေးဝါးများကို ရရှိနိုင်သည်

၁။ ဟုတ်သည် ၂။ မရှိပါ ၃။ မသိဘူး

၄.၁ A°ပ်ချ်A°ငဗိကာကွယ်ရေးဝန်ဆောင်မှုများကို လက်လှမ်းမီမှု

HTC ဝန်ဆောင်မှုများပေးသော နေရာများကို သွားခြင်းသည် A ဆင်ပြေသလား။

၁။ A လွန်A ဆင်ပြေ ၂။ A ဆင်ပြေသည်

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၃။ ခက်ခဲ ၄။ A လွန်ခက်ခဲ

HTC ဝန်ဆောင်မှုများ ရရှိနိုင်သည့် ဆေးခန်းများသို့ သွားရန် မည်မျှကြာမည်နည်း။

၁။ ၁၅ မိနစ်ထက်နည်း ၂။ မိနစ် ၃၀ခA ၁က်

၃။ မိနစ် ၃၀ကျော် ၄။ တစ်နာရီကျော်

HTC ဆေးခန်းများမှ ရရှိသောA ချက်A လက်များကို ကျွန်ုပ်နားလည်နိုင်ပါသည်။

၁။ ဟုတ်ပါသည် ၂။ မဟုတ်ပါ

၄.၄ A°ပ်ချ်A°ုင်ဒီ/ခA A°ုင်ဒီA က်စ်ကြိုတင်ကာကွယ်ရေး A ပြုA မူသတင်းA ချက်A လက်

သင်ရရှိခဲ့သည့် A°ပ်ချ်A°ုင်ဒို/ခA A°ုင်ဒီA က်စ်နှင့် သက်ဆိုင်သည့် သတင်းA ချက်A လက်ရင်းမြစ်များမှာ A ဘယ်နည်း။

(A ဖြေတစ်ခုထက် ပို၍ ဖြစ်နိုင်သည်)

၁။ ရေဒီယို ၂။ ရုပ်မြင်သံကြား

၃။ ကျန်းမာရေးပညာရှင်များ ၄။ တန်းတူပညာရေးA စီA စဉ်

၅။ သတင်းစာ ၆။ သူငယ်ချင်းများ

၇။ မိသားစုဝင်များ ၈။ ဂျာနယ်များ/မဂ္ဂဇင်းများ

၉။ A ခြား (A သေးစိတ်ဖော်ပြပါ).....။

ရွယ်တူချင်းပညာပေးA စီA စဉ်ကို သင်ရဖူးလား။

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၁။ ရရှိခဲ့ ၂။ မရရှိသည်

ရရှိခဲ့လျှင် နောက်ဆုံးA စည်းA ဝေးကို ဘယ်A ချိန်တက်ခဲ့သနည်း။

၁။ ပြီးခဲ့သည့်လA တွင်း

၂။ ပြီးခဲ့သည့် ၃လA တွင်း

၃။ ပြီးခဲ့သည့် ၆လA တွင်း

၄။ ၁နှစ်ကျော်

ဟုတ်လျှင် သက်တူရွယ်တူ ပညာပေးမှ ရရှိသောA ချက်A လက်များကို နားလည်ရန်လွယ်ကူပါသလား။

၁။ လွယ်ပါတယ်

၂။ မလွယ်ကူပါ

A ပိုင်းင။ A°ပ်ချA°ိင်ဇီကာကွယ်ရေးA ပြုA မူ

ကျွန်ုပ်သည် ဖောက်သည်များ၊ ပုံမှန်မိတ်ဖက်များနှင့် ကွန်ဒုံးကို မှန်ကန်စွာနှင့် တသမတ်တည်းA သုံးပြုသည်

၁။ A သုံးပြုသည် ၂။ A သုံးမပြုပါ

ဟုတ်ကဲ့၊ ကွန်ဒုံးများနှင့် သဟဇာတဖြစ်သော ချောဆီကို သင်A သုံးပြုပါသလား။

၁။ A သုံးပြုသည် ၂။ A သုံးမပြုပါ။

ကွန်ဒုံးA သုံးပြုရန် ဖောက်သည်များနှင့် ပုံမှန်မိတ်ဖက်များနှင့် ကျွန်ုပ်eA ၁င်မြင်စွာ ညှိနှိုင်းပါသလား။

၁။ ညှိနှိုင်းနိုင်ပါတယ် ၂။ ညှိနှိုင်းမရပါ

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ကျွန်ုပ်သည် ပုံမှန် HIV A ကြံ့ပေးခြင်းနှင့် စစ်ဆေးခြင်းလုပ်ပါသည်

၁။ လုပ်သည် ၂။ မလုပ်ပါ

A ကယ်၍ ဆရာဝန်ညွှန်ကြားထားပါက ကျွန်ုပ်သည် HIV မထိတွေ့နိုင်သော ကြိုတင်ပရိဖလိုင်ဆစ်ဆေးကို သောက်ရန် ဆန္ဒရှိသည်။

၁။ ရှိသည် ၂။ မရှိဘူး

မရှိပါက မသောက်ရန်A ကြောင်းပြချက်ကား A ဘယ်နည်း။

၁။ ဆိုးရွားသော ဆေးဝါးဘေးထွက်ဆိုးကျိုးများကို ကြောက်သည်

၂။ သူငယ်ချင်းများနှင့် မိသားစုက ကျွန်ုပ်တွင် Aိပ်ချAိင်ဗီရိုသည်ဟု ထင်ကောင်းထင်လိမ့်မည်

၃။ နောက်ပိုင်းတွင် ဆေးယဉ်ပါးနိုင်သည်ကို ကြောက်သည်

၄။ ကျွန်ုပ်သည် ပုံမှန်ဆေးယူနိုင်ခြင်းမရှိခြင်းA တွက် စိုးရိမ်ပူပန်ပါသည်

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APPENDIX C

ETHICAL CLEARANCE

Certificate of Approval
Ethical Review Committee for Human Research
Faculty of Public Health, Mahidol University

COA. No. MUPH 2020-057

Protocol Title : FACTORS ASSOCIATED WITH HIV PREVENTIVE BEHAVIORS AMONG FEMALE SEX WORKERS IN BAGO TOWNSHIP, BAGO DIVISION, MYANMAR

Protocol No. : 64/2563

Principal Investigator : Dr. Phone Myint Naing

Co-Investigator(s) : Assoc. Prof. Dr. Pimsurang Taechaboonsermsak
Lect. Dr. Korravan Yodmai

Affiliation : Master of Public Health (International Program)
Faculty of Public Health, Mahidol University

Approval Includes :
1. Project proposal
2. Information sheet
3. Informed consent form
4. Data collection form/Program or Activity plan

Date of Approval : 20 March 2020
Date of Expiration : 19 March 2021

The aforementioned project have been reviewed and approved according to the Declaration of Helsinki by Ethical Review Committee for Human Research, Faculty of Public Health, Mahidol University.

S. Natth

(Assoc. Prof. Dr. Sutham Nanthamongkolchai)
Chairperson of Ethical Review Committee for Human Research

C. Tanasugarn

(Assoc. Prof. Dr. Chanuantong Tanasugarn)
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APPENDIX D

INFORMATION SHEET (IN ENGLISH)

EC- 3 Form

1. Title of the Project

Factors associated with HIV preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar.

2. Study Site

Bago Township, Bago Division, Myanmar

3. This project is conducted by Phone Myint Naing under supervision of Major Advisor Associate Professor Dr. Pimsurang Taechaboonsermsak

4. Brief Background, Rationale

HIV virus which leads to AIDS is one of the most serious public health challenges in the world. In 2018, there were approximately 37.9 million people across the globe with HIV/AIDS. Female sex workers (FSWs) are one of the key populations for HIV prevention globally. They were 12% of total HIV infection in middle-and lowincome countries and 13.5 times more prone to HIV infection when compared to general reproductive age women. In Myanmar, 5.6% of female sex workers were HIV positive and around 45% of HIV positive sex workers were aware of their status in 2018. In Yangon and Mandalay, an estimated 24.6% and 13.7% of female sex workers respectively, were living with HIV, portraying some of the highest HIV prevalence locations in the Southeast Asia and Pacific region. Bago is located in the southern central region of Myanmar. This area is a pathway to connect upper and lower regions of Myanmar. A lot of migration showed in this area and it has very high number of female sex workers. According to a study of Tin Aung and team, they found that the

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proportion of HIV testing of female sex workers (n=48) in Bago was 42%, and 13% visited a drop-in center, 35% attended peer health talking, 53% accessed health information, and 94% used condom with last client. But only 24% of them was consistent used condom with their regular partner. According to those evidence, situation of HIV preventive behaviors in Bago's FSWs were at high risk to spread the HIV infection. To prevent further HIV transmission in this area, it is important to explore the associated causes to HIV preventive behaviors among FSWs in Bago.

2. Objectives:

- To access HIV/AIDS preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar.
- To examine the predisposing, reinforcing and enabling factors influencing HIV/AIDS preventive behaviors among female sex workers.
- To explore the relationship between general characteristics included age, education, marital status, occupation, monthly income, family context, residential instability, substance abuse and HIV /AIDS preventive behavior among female sex workers.
- To explore the relationship between predisposing factors in terms of knowledge and attitude towards HIV/AIDS and HIV/AIDS preventive behavior among female sex workers.
- To explore the relationship between reinforcing factors in terms of peer support, social support and social cohesion and HIV/AIDS preventive behaviors among female sex workers.
- To explore the relationship between enabling factors in terms of availability, accessibility to HIV/AIDS preventive services, source of information about HIV/AIDS and HIV/AIDS preventive behaviors among female sex workers.

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6. You are invited to be a volunteer/subject to participate in the project because

You fulfill the criteria. The aim of this study is to assess the HIV preventive behaviors and factors associated with HIV preventive behaviors among female sex workers in Bago Township, Bago Division, Myanmar. The result of the study could be useful to develop programs and policy that will be benefited to the female sex workers in Bago Township in the future.

7. Research activities which involving you when you volunteer to participate in this research project will be as following:

If you voluntarily agree to be a respondent, we would like you to sign a written informed consent form. Then we will distribute you a set of questionnaires, which includes questions regarding your general characteristics, knowledge, attitudes, peer-support, social support, social cohesion, availability, accessibility, affordability and source of information about HIV preventive services.

3. Period of time that you will be involved in this research activities:

The whole process will take around 20-30 minutes.

4. Expected benefits of the project to you and to others:

There is no direct benefit to participants in this study but your contribution will be helpful in developing programs and policy that will be benefited to the female sex workers in Bago Township in the future.

10. Risks or any undesirable that may occur to you caused by this research and measure or prevention and risk reclusion method which will be provided during participation in the project

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There will be no physical risks for subjects to participate in the study. However, the respondents might experience uncomfortable feelings from recalling memories and answering to the questionnaire. Some questions may be unexpected. Researcher and research assistants will be explained anything that the respondents unclear or uncertain about the questionnaires. You can stop any time or skip any question if you feel uncomfortable in answering the questionnaire. Your confidentiality and voluntary participation are the top priority to us.

5. How can you securely store the data and keep them confidential?

The answer will be anonymous. All of the respondents' answers will be kept confidential. All questions will be kept in taped brown envelopes. No one other than the researcher has access to the data. In any sort of report, we might publish, we will not include any information that will make it possible to identify the respondents.

6. The right of the subject to withdraw from the project

You have the right to choose not to answer question that makes you feel uncomfortable or to withdraw from the study at any point and this withdrawal will not be affect anything to you.

7. Contact address of authorized persons in case of emergency:

Dr. Phone Myint Naing (Student ID-6236827 PHMP/M)

Master of Public Health International Program

Faculty of Public Health, Mahidol University

420/1 Rajvithi Road, Rajthevi, Bangkok 10400 Thailand
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APPENDIX E

INFORMATION SHEET (IN MYANMAR)

EC- 3 Form

၁။ စီမံကိန်းခေါင်းစဉ်

ပဲခူးတိုင်း၊ပဲခူးမြို့ရှိA မျိုးသမီးလိင်လုပ်သားများA ကြားA°ပ်ချA°ငဒိုကြိုတင်ကာ ကွယ်ရေးဆိုင်ရာA ပြုA မူများဆိုင်ရာA ပြုA မူများနှင့်ဆက်စပ်သည့်A ချက်များ။

၂။ ပဲခူးမြို့၊ပဲခူးတိုင်း၊မြန်မာနိုင်ငံ

၃။ ဤစီမံကိန်းကိုဘုန်းမြင့်နိုင်က A ဓိကA ကြံုပေး လက်ထောက်ပါမောက္ခ Dr.Pimsurang Taechaboonsermsak ၏ကြီးကြပ်မူေA ာက်တွင်ပြုလုပ်သည်။

၄။ နောက်ခံA ကျဉ်း

ေA A°ငတိA က်စ်သို့ဦးတည်စေသော A°တ်ချA°ငဗိုဗိုင်းရစ်သည်ကမ္ဘာပေါ်တွင် A လေးနက်ဆုံးပြည်သူ့ကျန်းမာရေး စိန်ခေါ်မှုများဖြစ်သည်။ ၂၀၁၈ခုနှစ်တွင်ကမ္ဘာတစ်ဝန်းတွင် A°ပ်ချA°ငဗိ \ ေA A°ငတိA က်စ်ရောဂါခံစားနေရသူ၃၇.၉သန်းရှိသည်။A မျိုးသမီးလိင်လုပ်သားများ (FSWS) သည် ကမ္ဘာA နံA°ပ်ချA°ငဗိုရောဂါ ကာကွယ်တားဆီးရေးတွင် A ဓိကသော့ချက်ဖြစ်သည်။ A လယ်A လတ်နှင့် ဝင်ငွေနည်းပါးသော တိုင်ပြည်များတွင်စုစုပေါင်းA°တ်A°ငဗိုကူးစက်မှု၏ ၁၂%ရှိပြီးယေဘုယျမျိုးဆက်ပွားA သတ်A ရွယ်A မျိုးသမီးများနှင့် နှိုင်းယှဉ်ပါကA°ပ်ချA°ငဗိုပိုးကူးစက်မှုက ၁၃.၅ဆပိုမိုများပြားသည်။ မြန်မာနိုင်ငံတွင်A မျိုးသမီးလိင်လုပ်သားများ၏ ၅.၆%သည်A°ပ်ချA°ငဗိုပိုးရှိနေ ပြီး၄၈%သောA°တ်ချA°ငဗိုလိင်လုပ်သမားများသည် ၄င်းတို့၏A ခြေA နေကို ၂၀၁၈ခုနှစ်တွင်သိရှိကြသည်။ ရန်ကုန်နှင့်မန္တလေးတို့တွင် ခန့်မှန်းခြေ၂၄.၆%နှင့်A မျိုးသမီးလိင်လုပ်သား၁၃.၇%A သီးသီးသည်နေထိုင်လျက်ရှိသည်A ရှေ့တောင်A ၁၅ ့နှင့်ပစိဖိဒေသတွင်A°တ်ချA°ငဗိုပျံနှံ့မှု A မြင်ဆုံးနေရာA ချို့ကိုဖော်ပြထားသည်။ ပဲခူးသည်မြန်မာနိုင်ငံ A လယ်ပိုင်းတောင်ပိုင်းတွင်တည်ရှိသည်။ ဤဇရိယာသည်မြန်မာနိုင်ငံ၏ A ထက်ပိုင်းနှင့် ေA ာက်ပိုင်းဒေသ

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များကိုချိတ်ဆက်ရန်လမ်းကြောင်းဖြစ်သည်။ ဤဒေသတွင်ရွှေ့ပြောင်းနေထိုင်မှု A များA ပြားပြသခဲ့ပြီ ၎င်းတွင်A မျိုးသမီးလိင်လုပ်သား A များA ပြားရှိနေသည်။ တင်ဇA ၁င်နှင့်A ဖွဲ့၏ လေ့လာမှုတစ်ခုA ရ ပဲခူးတိုင်းတွင် A မျိုးသမီးလိင်လုပ်သားများ (n=၄၈)၏ HIVစစ်ဆေးမှုA ချိုးသည် ၄၂%ရှိပြီး၁၃%က drop-inစင်တာသို့ရောက်ရှိလာပြီး ၃၅%ကသတ်တူရွယ်တူကျန်းမာရေးဆွေးနွေးပွဲသို့တက်ရောက်ခဲ့သည်။ ၅၃% သည် ကျန်းမာရေးသတင်းA ချက်များကိုရယူနိုင်ခဲ့ပြီး ၉၄% သည်နောက်ဖောက်သည်များနှင့်ကွန်ဒုံး ကိုA သုံးပြုကြသည်။သို့သော် ၎င်းတို့ထဲမှ ၂၄%သာပုံမှန်မိတ်ဖတ်များနှင့် ကွန်ဒုံးA သုံးပြုသည်။ ထိုသက်သေA ထောက်A ထားများA ရ ပဲခူးတိုင်းဒေသကြီးရှိ A မျိုးသမီးလင်လုပ်သားများ(FSWS) ရှိ A ိတ်ချA ိုင်ဗွီရောဂါ ကြိုတင်ကာကွယ်သည့် A ပြုA မူများA ခြေA နေသည် A ိပ်ချA ိုင်ဗွီပိုးကူး စက်မှုကို ပြန့်နှံ့စေနိုင်သည်။ ဤဒေသတွင်ထပ်မံ၍ HIV ကူးစပ်မှုကို ကာကွယ်ရန်A တွက်ပဲခူးရှိ A မျိုးသမီး လိင်လုပ်သားများA ကြား A ိပ်ချA ိုင်ဗွီ ကာကွယ်ရေးA ပြုA မူများနှင့် ဆက်စပ်သော A ကြောင်းရင်းများကို လေ့လာရန်A ရေးကြီးသည်။

၅။ ရည်ရွယ်ချက်များ

- ပဲခူးတိုင်း၊ပဲခူးတိုင်းရှိ A မျိုးသမီးလိင်လုပ်သားများA ကြား A ိပ်ချA ိုင်ဗွီဇA A ိုင်ဒီA က်စ်ရောဂါ ကာကွယ်တားဆီးရေးA ပြုA မူများကိုရယူရန် ။
- A မျိုးသမီးလင်လုပ်သားများA ကြား A ိပ်ချA ိုင်ဗွီ / ဇA A ိုင်ဒီA က်စ်ကြိုတင်ကာကွယ်ရေးဆိုင် ရာA ပြုA မူများA ပေါ် A ကျိုးသက်ရောက်စေသောA ချက်များ ၊
- A ထွေထွေပိသေသလက္ခဏာများA ကြားဆက်နွယ်မှုကိုလေ့လာရန်၊ပညာရေး၊ A ိမ်ထောင်ရေး A ခြေA နေ၊A လုပ်A ကိုင်၊လစဉ်ဝင်ငွေ၊မိသားစုA ခြေA နေ ၊နေထိုင်မှု မတည်ငြိမ်မှု ၊
- A မျိုးသမီးလိင်လုပ်သားများA ကြား A ိပ်ချA ိုင်ဗွီ/ဇA A ိုင်ဒီA က်စ် နှင့် A ိပ်ချA ိုင်ဗွီ/ ဇA A ိုင်ဒီA က်စ်ကြိုတင်ကာကွယ်ရေးA ပြုA မူများA ပေါ်ဝဟုသုတနှင့်သဘောထားတို့ A ကြား ကြိုတင် ဖော်ထုတ်ထား သည့် A ချက်များ A ကြားဆက်နွယ်မှုကိုစူးစမ်းလေ့လာရန် ။

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- မိတ်ဆွေများ၊ကျန်းမာရေးစောင့်ရှောက်မှုပေးသူများနှင့် သက်တူရွယ်တူများမှ စိတ်ပိုင်းဆိုင်ရာ လူမှုကူညီပံ့ပိုးမှု၊HIV/AIDS ကာကွယ်တားဆီးရေး A ပြုA မူသတင်း A ချက်A လက်နှင့် ဝန်ဆောင်မှုများ နှင့် A မျိုးသမီးလိင်လုပ်သားများA ကြား A°ပ်ချ်A°ိင်ဗွိ / ေA A°ိင်ဒီA က်စ် ကာကွယ်ရေး A ပြုA မူများပါဝင်သည်။

- ရရှိနိုင်သောA ချက်များ၊A°ပ်ချ်A°ိင်ဗွိ / ေA A°ိင်ဒီA က်စ် ကြိုတင်ကာကွယ်ရေး ဝန်ဆောင်မှုများ၊ A°ပ်ချ်A°ိင်ဗွိ / ေA A°ိင်ဒီA က်စ် နှင့် A°ပ်ချ်A°ိင်ဗွိေA A°ိင်ဒီA က်စ် ရောဂါကာကွယ်တားဆီးရေး A ပြုA မူများA ကြား ဆက်နွယ်မှုကိုလေ့လာရန်။

၆။ စီမံကိန်းတွင်ပါဝင်ရန်သင့်A ား ေစတနာ့ဝန်ထမ်းA ဖြစ်ဖိတ်ကြားသည်။ ဘာဖြစ်လို့လဲဆိုတော့ သင်A ရည်A ချင်းပြည့်မီတယ်။ ဤလေ့လာမှု၏ရည်ရွယ်ချက်မှာ ပဲခူးတိုင်း၊ပဲခူးတိုင်း၊ပဲခူးမြို့နယ်ရှိ A°တ်ချ်A°ိင်ဗွိရောဂါ ကာကွယ်တားဆီးရေး A ပြုA မူများနှင့် A°တ်ချ်A°ိင်ဗွိကြိုတင် ကာကွယ်ရေး A ပြု A မူများနှင့် ဆ က်စပ်သည့်A ချက်များကို A ကဲဖြတ်ရန်ဖြစ်သည်။ လေ့လာမှု၏ရလဒ်သည်ပဲခူးတိုင်း ဒေသကြီးA တွင်းရှိ A မျိုးသမီးလိင်လုပ်သားများကို A ြ ကိုးရိုစေမည့်A စီA စဉ်များ နှင့်မူဝါဒများကို ဖော်ထုတ်ရန်A တွက်A သုံးဝင်သည်။

၇။ ဤသုတေသနစီမံကိန်းတွင် သင်ပါဝင်ရန်သင်လုပ်A ားပေးသောA ခါတွင် ပါဝင်မည့်သုတေသန လုပ်ငန်းများမှာ ေA ာက်ပါA တိုင်းဖြစ်သည် -

A ကယ်၍ သင်သည်တုန့်ပြန်သူတစ်ဦးဖြစ်ရန်ဆန္ဒ A လျှောက်သောေတာ်ူပါက ၊သင့်A ားစာဖြင့် A ကြောင်းကြားသောသေတာ်ူညီချက်ပုံစံကိုသင်လက်မှတ်ထိုးပေးပါမည်။ထို့နောက်သင့်A ား မေးခွန်းပုံစံများ ဖြန့်ဝေပါမည်။ ရွယ်တူချင်းပံ့ပိုးမှု၊ လူမှုရေးပံ့ပိုးမှု၊ လူမှုရေးစည်းလုံးမှုရရှိနိုင်မှု၊ လက်လမ်းမီမှု၊ တ တက်နိုင်မှုနှင့် A°တ်ချ်A°ိင်ဗွိကာကွယ်ရေးဝန်ဆောင်မှုဆိုင်ရာသတင်း A ချက်A လက်ရင်း ြ မြစ်တို့နှင့် ပတ်သတ်သော မေးခွန်းများပါဝင်သည် ။

၈။ ဤသုတေသနလုပ်ငန်းများတွင် သင်ပါဝင်ရမည့် A ချိန်ကာလ - လုပ်ငန်းစဉ်တစ်ခုလုံးသည်မိနစ် ၂၀ မှ ၃၀ ခန့်ကြာလိမ့်မည် ။

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၉။ သင် နှင့် A ခြားသူများA တွက် စီမံကိန်း၏ မျှော်လင့်ထားသည့် A ကျိုးကျေးဇူးများ -

ဤလေ့လာမှုတွင် ပါဝင်သူများA တွက် တိုက်ရိုက်A ကျိုးကျေးဇူးမရှိပါ ။ သို့သော်သင်၏ပါဝင်မှု သည်ပဲခူးတိုင်းဒေသကြီးA တွင်းရှိ A မျိုးသမီးလိင်လုပ်သားများA တွက် A ကျိုးရှိမည့်A စီA စဉ်နှင့် မူဝါဒ ါဒများရေးဆွဲရာတွင် A ထောက်A ကူပြုလိမ့်မည်။

၁၀။ ဤသုတေသနနှင့်တိုင်းတာမှ သို့ မဟုတ် ကြိုတင်ကာကွယ်ရေးနှင့်စွန့်စားမှုပြန်လည်ထူထောင် ခြင်းနည်းလမ်းကြောင့်ဖြစ်ပေါ်လာနိုင်သည့် A္ကနရယ်များ (သို့) မလိုလားA ပ်သာ မည့်သည့် A ရာ မဆိုစီမံကိန်းတွင်ပါဝင်စဉ်A တွင်း ထောက်ပံ့ပေးလိမ့်မည်။ ဤလေ့လာမှုတွင်ပါဝင်သူများပါဝင် ရန်ရုပ်ပိုင်းဆိုင်ရာ A္ကနရယ်မရှိပါ။ သို့သော်ဖြေဆိုသူများသည် A မှတ်တရများကိုပြန်ခေါ်ခြင်းနှင့် ေ မေးခွန်းလွှာကို ဖြေဆိုခြင်းမှ မသက်မသာခံစားမှုမျိုး ခံစားရရှိနိုင်သည်။ မေးခွန်းA ချို့သည် မေ မမျော်လင့်ဘဲဖြစ်နိုင်သည်။ သုတေသီများနှင့်သုတေသနလက်ထောက်များA နေဖြင့် မေးခွန်း လွှာများနှင့် ပတ်သတ်၍ ရှင်းလင်းပြတ်သားမှုမရှိ၊ သင်သည်မေးခွန်းများကိုဖြေဆိုရန်မသက်မသာ ဖြစ်နေပါက မ ည့်သည့်A ချိန်ကို မဆိုရပ်တန့်နိုင်သည် သို သို့မဟုတ် မေးခွန်းတစ်ခုကို ကျော်သွားနိုင်သည်။ သင့်၏လျို့ဝှက်ချက် နှင့် ဆန္ဒ A ေ A လျှောက်ပါဝင်မှုသည် ကျွန်ုပ်တို့A တွက်ထိပ်တန်းဦးစားပေး ဖြစ်သည်။

၁၁။ A ဖြေကA မည်ဝှက်ပါဝင်သည်။ ဖြေကြားသူများ၏A ဖြေများကိုလျို့ဝှက်ထားပါမည်။မေးခွန်း A ားလုံးကို taped A ညိုရောင်စာA ိတ်ထဲမှာ ထားလိမ့်မယ်။သုတေသီမှလွဲ၍ မည်သူမျှဒေတာကို လက်လှမ်းမမှီပါ။ မည်သည့်A စီရင်ခံစာတွင်မဆို ကျွန်ုပ်တို့ထုတ်ဝေနိုင်သည် ၊ ဖြေဆိုသူ များ ကိုခွဲခြား သိမြင်စေသည့် သတင်းA ချက်A လက်ကိုမှ ကျွန်ုပ်တို့မဖော်ပြပါ။

၁၂။ စီမံကိန်းမှထွက်ခွာရန်ဘာသာရပ်၏A ခွင့်A ရှားသင့်A နေဖြင့် မသက်မသာဖြစ်စေသောမေးခွန်းကို ဖြေဆိုရန် သင်ရွေးချယ်ပိုင်ခွင့်ရှိသည် (သို့မဟုတ်) မည်သည့်A ချိန်တွင်မဆို လေ့လာမှုမှ ဆုတ်ခွာရန်နှင့် ဤ ဆုတ်ခွာခြင်းသည် သင့်A တွက် မည့်သည့်A ရာမျှသက်ရောက်မှု ရှိလိမ် မည်မဟုတ်ပါ။

၁၃။ A ရေးပေါ်A ခြေA နေတွင် A ခွင့်A ာကာရှိပုဂ္ဂလိများ၏ ဆက်သွယ်ရန်လိပ်စာ-ဒေါက်တာဘုန်းမြင့်နိုင် (ကျောင်းသား ID -6236827 PHMP / M)

ပြည့်သူ့ကျန်းမာရေးA ပြည်ပြည်ဆိုင်ရာ A စီA စဉ်၏ မဟာ

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ပြည်သူ့ကျန်းမာရေးဌာန ၊ Mahidiol တက္ကသိုလ်

420/1 Rajvithi Road , Rajthevi , ဘန်ကောက် ၁၀၄၀၀ ထိုင်းနိုင်ငံ

မြန်မာနိုင်ငံရှိ လိပ်စာ ၊

A မှတ် ၈၈ ၊ စကားဝါပင်လမ်း၊ ကြည့်မြင်တိုင်မြို့နယ်၊ ရန်ကုန် ၊ မြန်မာ။

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APPENDIX F

INFORMED CONSENT FROM

EC- 4 Form

Project Title: Factors associated with preventive behavior of HIV/AIDS among female sex workers in Bago Township, Myanmar

Responsible person(s) and Institute:

Phone Myint Naing

Student ID: 6236827

Master of Public Health International Program

Faculty of Public Health, Mahidol University, Bangkok, Thailand

Date……. (day/month/year)

I, (Mr./Mrs./Ms.) ……hereby have signed the consent to declare that:

1. Before signing the certificate of consent, I was explained the objectives and methods of thestudy, as well as the possible risks and benefits that may happen to myself upon participating in the study.

2. I have had the opportunity to ask questions about the study and any questions that I have askedhave been answered till I satisfied.

3. I understand the right to withdraw from participation the study at any time without any adverseeffects upon myself.

4. I understand that the investigator will keep all the information confidential and my name willnot be declared in any case.

5. I have read and understand the above information and I consent voluntarily to participate in thestudy as a participant.

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6 I shall be given a copy of the signed informed consent form.

Signature……. (Respondent/Informant)

(…….)

Signature……..... (Researcher)

(Phone Myint Naing)

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APPENDIX G

INFORMED CONSENT FORM (MYANMAR)

EC- 4 Form

စီမံကိန်းခေါင်းစဉ်

ပဲခူးတိုင်း၊ ပဲခူးမြို့နယ်ရှိ A မျိုးသမီးလိင်လုပ်သားများA ကြား A်ိပ်ချA်ိင်ဒီကြဲတင်ကာကွယ်ရေးဆိုင်ရာ A ပြုA မူများ နှင့် ဆက်စပ်သည့် A ချက်များ။

တာဝန်ရှိပုဂ္ဂိုလ်များနှင့် A ဖွဲA စည်း

ဘုန်းမြင့်နိုင်

ကျောင်းသား ID: 6236827

ပြည်သူ့ကျန်းမာရေးA ပြည်ပြည်ဆိုင်ရာA စီA စဉ်၏မဟာ

ပြည်သူ့ကျန်းမာရေးဌာန၊ မဟီဒေါတက္ကသိုလ်၊ ဘန်ကောက်၊ ထိုင်း။

နေ့စွဲ .....(ရက်၊ လ၊ နှစ်)

ကျွန်ုပ်(A မည်).....သည် ဤသဘောတူညီမှုပုံစံတွင်ပါဝင်သော A ချက်A လက်များကို ဖတ်ရှုနားလည်ပြီးသဘောတူညီချက်လက်မှတ်ထိုးပါသည်။

၁။ သဘောတူ ခွင့်ပြုချက်လက်မှတ်ကို လက်မှတ်မထိုးခင်မှာ လေ့လာမှုရဲ့ရည်မှန်းချက်နဲ့ နည်းလမ်းတွေ၊ လေ့လာမှုမှာ ပါဝင်တဲ့A ခါ ကိုယ်ကိုယ်ကို ဖြစ်နိုင်ခြေရှိတဲ့ A္ကရာယ်တွေကို ရှင်းပြခဲ့တယ်။

၂။ ကျွန်ုပ်သည် လေ့လာမှုနှင့် ပတ်သတ်၍ မေးခွန်းများမေးရန် A ခွင့်A ရေးရရှိခဲ့ပြီး ကျွန်ုပ် ကျေနပ်သည်A ထိ ကျွန်ုပ် မေးမြန်းခဲ့သော မေးခွန်းများကို ဖြေကြားခဲ့သည်။

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၃။ ကျွန်ုပ်သည် ကျွန်ုပ်ကိုယ်တိုင်A ပေါ် ဆိုးကျိုးသက်ရောက်ခြင်းမရှိပဲမည်သည့်A ချိန်တွင်မဆို ပါဝင်ခြင်းမှ ပြန်လည်ရုပ်သိမ်းနိုင်ခွင့်ကို ကျွန်ုပ် နားလည်းပါသည်။

၄။ စုံစမ်းစစ်ဆေးသူA နေဖြင့် A ချက်A လက်မှားA ၁းလုံးကိုလျှို့ ဝှက်ထားမည် ဖြစ်ကြောင်းနှင့် ကျွန်ုပ်၏ A မည်A ၁း မည်သည့်ကိစ္စတွင်မျှ ပေါက်ကြားမည် မဟုတ်ကြောင်း ကျွန်ုပ် နားလည်ပါသည်။

၅။ A ထက်ဖော်ပြပါ A ချက်A လက်မှားA ၁း ကျွန်ုပ် နားလည်ဖတ်ရှုနားလည်ပြီးပါက ပါဝင်မှုA နေဖြင့် လေ့လာမှုတွင် ပါဝင်ရန် ဆန္ဒA လျှောက်ကျွန်ုပ် သဘောတူပါသည်။

၆။ ကျွန်ုပ်သည်လက်မှတ်ရေးထိုးထားသော A သိပေးသဘောတူညီချက်ပုံစံမိတ္တူကို ကျွန်ုပ်ရယူနိုင်ကြောင်း သိရှိပါသည်။

လက်မှတ် ..... ။ (ဖြေဆိုသူ/ သတင်းပေး)

(.....)

လက်မှတ် ..... (သုတေသီ)

ဘုန်းမြင့်နိုင်

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BIOGRAPHY

NAME	Phone Myint Naing
DATE OF BIRTH	May 30, 1990
PLACE OF BIRTH	Yangon, Myanmar
INSTITUTIONS ATTENDED	University of Medicine (1), 2006-2012 Bachelor of Medicine and Bachelor of Surgery (M.B.,B.S)
HOME ADDRESS	No.88, Sagawa Pin Street, Kyimyindine Township, Yangon, Myanmar
EMPLOYMENT ADDRESS	2018- 2019 Medical Doctor at Targeted Outreach Program (TOP), Bago. 2017-2018 Medical Doctor at B.K.Kee Foundation, Yangon. 2014-2016 General Practitioner at Clinics, Part-time Medical Doctor at Thukha Gabar Hospital, Yangon.

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